

MIXED METHODS INVESTIGATION OF
DISTRESS RELATED TO PSYCHOSIS
EXPERIENCES

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Abstract

Distress associated with psychosis experiences has been related to the maintenance of psychosis experiences and people's need for care. However, the mechanisms responsible for its maintenance remain unclear. Thus, this mixed methods project investigates experiential and psychological vulnerability factors contributing to distress related to psychosis in a clinical sample living in the community. This is done in order to determine whether specific vulnerability factors also act as maintenance factors for people in care. Therefore, these are assumed to be distinct.

In the first study, a cross-sectional design (N= 60) was used to investigate the role of specific emotion regulation and metacognitive difficulties in the relationship between insecure attachment dimensions and distress related to psychosis experiences. Multiple regression analyses were conducted to determine which subscales predicted distress related to psychosis and significant predictors were taken forward to mediation models. Mediation analysis showed that only *need for control* mediated the relationship between insecure attachment and distress related to positive symptoms. Further, only *limited access to emotion regulation strategies* mediated the relationship between attachment anxiety and distress associated with both negative symptoms and to depressive symptoms in psychosis. These results expand on previous research by suggesting specific vulnerability factors that are related to distress associated with different symptoms.

In the second study, Interpretative Phenomenological Analysis was used to analyse 10 in-depth qualitative interviews which explored people's appraisals of their experiences of psychosis. Four inter-related themes emerged; (1)lacking control, (2)change – renegotiating a personal and social identity, (3)living in fear, and (4)multiple realities. The importance of 'control' is highlighted throughout all the themes, as negative appraisals about perceived control underpins experiences. This study demonstrates the importance of people's appraisals to how they make meaning of and respond to psychosis experiences.

Together, these studies emphasise that distress relates to psychosis experiences as a whole rather than specific symptoms. The two studies were integrated and interpreted using a joint display method. People's perceived lack of control and unhelpful interpersonal relationships were found to contribute to the maintenance of distress related to psychosis experiences. Implications of these findings are discussed.

Keywords: Psychosis, distress related to psychosis, emotion regulation, metacognition, attachment theory, mixed methods

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Chapter 1. Introduction

This thesis is concerned with expanding understanding of distress related to psychosis experiences. In 2014, around the time that this PhD journey began, the British Psychological Society published a report titled ‘Understanding Psychosis and Schizophrenia’ (Cooke, 2014). The report highlighted that everyone’s experience of psychosis is different and suggested that many people do not come in contact with mental health services because they do not find their experiences distressing (Romme & Escher, 1993). Distress therefore seems to be an important predictor of the onset and maintenance of psychosis experiences and help-seeking behaviour (Brett, Heriot-Maitland, McGuire & Peters 2014). The report prompted a question which has come to lay the foundations of this thesis: What are the psychological factors and experiences that contribute to the maintenance of distress related to psychosis experiences in a clinical sample?

Psychotic-like experiences are not inherently distressing nor do they systematically lead to mental health conditions (Brett et al., 2014; Peters, Day, McKenna & Orbach, 1999a). Indeed, there is evidence that psychotic-like experiences occur in the general population. Bentall, Claridge and Slade (1989) suggested that psychosis experiences exist on a ‘continuum’ rather than being categorical, thus existing independently from psychiatric diagnoses. Comparative work looking at experiences in clinical and non-clinical populations found that both groups reported similar overall levels of psychotic-like experiences, but were characterized by distinct types of experience; clinical groups tended to be more distressed by their experiences than non-clinical groups (e.g. Brett, Johns, Peters & McGuire, 2009, 2014; Lovatt, Mason, Brett & Peters, 2010; Peters et al., 1999a). Cognitive models of psychosis suggest that the appraisals people make of their psychosis experience are key mediators in determining the outcome of their experiences (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001, 2007; Morrison, 2001). This, suggests that coming in contact with mental health services and consequently receiving a diagnosis is related to how people make sense of their experiences, and the appraisals they form of their anomalous experiences. However, this area of inquiry is in its infancy, and the studies’ comparative design (e.g. Brett et al., 2009; Lovatt et al., 2010) led to the omission of

negative symptoms, as non-clinical groups are less likely to experience them. This project was therefore designed to begin to address this gap. It does so by investigating both the appraisals and psychological vulnerability factors involved in the maintenance of distress related to positive, negative and depressive symptoms in a clinical sample living in the community. Psychological vulnerability factors were investigated because of their association with the onset and maintenance of psychosis experiences, and the likelihood that they contribute to the maintenance of distress related to psychosis.

It is important here to highlight that vulnerability and maintenance factors are not interchangeable. That is to say, vulnerability and maintenance factors may overlap but the assumption should not be made that they are one and the same. Vulnerability to psychosis can be explained through biopsychosocial components (Freeman, Garety, Kuipers, Fowler & Beddington, 2002; Ingram & Price, 2010), which may also serve as maintenance factors. However, not all vulnerability factors will contribute to the maintenance of people's experiences. Likewise, a maintenance factor need not necessarily constitute a vulnerability factor (e.g. stigma following diagnosis; Ingram & Price, 2010). Investigating factors contributing to the maintenance of psychosis (e.g. attachment theory, emotion regulation and metacognition) is relevant in the context of this research since the participants of this project are still in receipt of care. Thus, known vulnerability factors of psychosis are investigated to determine whether they also act as maintaining factors in relation to distress.

Psychosis is constructed of a set of life changing events that can be understood as an expression of people's developmental adaptation: a response to critical life events and transitions (Gumley & Schwannauer, 2006). Research increasingly has been exploring the role psychosocial developmental factors may play in the development and maintenance of psychosis. Adverse social environments people might be in and the dysfunctional schemas they form are likely to contribute to the development and maintenance of psychosis experiences by leading the person to hold distorted beliefs about the self, others, and the world (see Garety et al., 2001). Amidst a vast literature dedicated to various vulnerability factors, attachment theory has emerged as a key paradigm of interest. Insecure attachment dimensions are associated with negative beliefs about the self and others, and maladaptive methods of regulating

distress, and may have a negative effect on the course of psychosis (Berry, Shah, Cook, Geater, Barrowclough & Wearden, 2008). Insecure attachment patterns were found to mediate the relationship between childhood adversity and psychosis (Read & Gumley, 2008). However, not all people experiencing psychosis have insecure attachment dimensions. This suggests that the relationship in question is more complex than previously thought, and may be mediated by other vulnerability factors such as emotion regulation (Mikulincer & Shaver, 2012) and metacognition (Macbeth, Gumley, Schwannauer & Fisher, 2011). While all these factors have independently been related to psychosis experiences, their role in the maintenance of distress related to psychosis experiences has yet to be investigated. Moreover, it is unclear whether insecure attachment dimensions relate to the development of psychotic-like experiences, or whether they relate to pathogenic appraisals that transform people's experiences into psychosis symptoms. Investigating psychological vulnerability factors is necessary to further develop psychological understandings of how distress related to psychosis experiences is maintained.

A further aspect of distress related to psychosis experiences that requires further investigation is that of the deeply personal and unique nature of experiencing psychosis. Important individual differences can be observed not only in the symptomatology, but also in the course and outcome of psychosis. Focusing on the phenomenological and experiential elements of people's experiences is one way through which a more in-depth and nuanced understanding of individual experiences and appraisals of psychosis experiences can be generated. Understanding what keeps people in contact with mental health services may also inform efforts to more effectively support people living with psychosis experiences. Previous work investigating people's appraisals of psychosis experiences did so using self-report measures (Brett, Peters, Johns, Tabraham, Valmaggia & McGuire, 2007), taxonomising experiences into pre-defined categories, or investigating experiences qualitatively in comparative studies focusing on similarities and differences between clinical and non-clinical groups (Heriot-Maitland, Knight & Peters, 2012). Despite the important contribution of these studies, further qualitative research is required to explore the beliefs and appraisals people hold of their experiences and the meaning they attribute to them, while being sensitive to the context in which they occur.

In order to examine these hitherto neglected elements of psychosis and related distress, the present study drew on a mixed-methods design to conduct two studies that would consider in detail these experiences and their meanings for those experiencing them. The underlying logic of mixing qualitative and quantitative findings is that on their own, neither method provides sufficient details to capture people's experiences. The studies were given equal weighting, analysed separately, and later combined in the interpretation and discussion of the overall research findings (Bazeley, 2018; Creswell, 2003). The combination of qualitative and quantitative studies provides a novel comprehensive picture of the characteristics of distress related to psychosis experiences.

The first study comprised a quantitative study that had as its primary aim investigating the impact of insecure attachment on distress related to psychosis experiences taking into account individual differences in emotion regulation and metacognition in a clinical population. However, while quantitative inquiries are very helpful in gaining a good understanding of the associations between concepts and variables across larger samples, they consequentially overlook the depth and nuance of people's experiences. Therefore, the second study comprised a qualitative study that was conducted to capture this experiential dimension. This study sheds light on how people appraise their experiences of psychosis through the interpretive phenomenological analysis of in-depth interviews.

This project is a novel empirical exploration of distress related to psychosis experiences. The integration of the findings of the quantitative and qualitative studies in addition to their individual conclusions provides a strong emphasise on the potential mixed methods research has in investigating complex psychological constructs. The integrated discussion at the end of the thesis warrants further research on distress related to psychosis experiences. Key clinical implications which emerged from the research include the use and further development of attachment-informed care, peer support workers and metacognition therapy. All of which can contribute to increasing people's perceived control over their psychosis experiences and facilitating supportive relationships.

Thesis outline

In this section, an overview of each chapter of the thesis will be provided in order to set out the context from which these arguments will emerge.

Chapter 2 provides an in depth review of the current state of the literature on psychosis. After presenting the characteristics of psychosis and the components of psychosis spectrum disorders, its multi-disciplinary aetiology is laid out. Given the focus of this thesis, particular attention is paid to the psychological vulnerability factors related to psychosis. Additionally, in order to emphasise the role distress related to psychosis experiences had on people's help seeking behaviours, the literature on dimensional approaches to psychosis is also discussed. The cognitive models of psychosis (Garety et al., 2001; Morrison et al., 2001) are then presented in order to situate the importance of people's beliefs and experiential appraisals. Next, and perhaps of most relevance to this thesis, the chapter addresses existing research on distress related to psychosis experiences (e.g. Brett et al., 2009), and it is from this synthesis that gaps in the literature emerge. The varied components presented throughout the chapter attest to the complex and deeply personal nature of psychosis experiences, the chapter is thus concluded on a review of experiential literature of psychosis experiences.

Chapter 3 presents a review of the literature on potential vulnerability factors to the development and maintenance of distress related to psychosis experiences. Attachment theory is a framework for understanding psychosis, further the vulnerability factors investigated in this project develop in relation to a person's attachment dimensions (Berry, Barrowclough & Wearden, 2007), it is thus defined and described first. Next, by drawing on the emotion regulation and metacognition literature, it is argued that they represent potential mediators in the relationship between insecure attachment dimensions and psychosis within an attachment theory framework (Read & Gumley, 2008). After exploring the conceptual literatures on emotion regulation and metacognition, links between them are established, paying attention to critical findings and neglected research areas. Ultimately, this chapter justifies the need to consider these specific psychological vulnerability factors in order to shed light on the shortcomings of current conceptualisation of distress related to psychosis experiences.

Chapter 4 outlines the rationale adopted for conducting mixed methods research. First the overall aim of the project is presented, this is followed by details on mixed methods research. A pragmatic lens is employed in this project as this allows for both qualitative and quantitative research to be explored concurrently. Specific research questions for study 1 and 2 and a mixed methods research question are then posed. For this project, the two studies are conducted in parallel using a triangulation design, the qualitative study is analysed first to limit the findings being influenced by the quantitative analysis, the integration of the two studies took place after they have been discussed individually to preserve their independent contribution.

Chapter 5 describes the quantitative research approach and design adopted in study 1. Here, the details of the self-report measures are presented, as well as, the procedures used in the study. The ethical considerations of the project are elaborated upon and the details of the recruitment, completed throughout the Lothians (a region of Scotland) and third sector organisations are detailed. The characteristics of the sample (N=60) are then introduced and the analytical plan is presented.

Chapter 6 details the empirical findings of study 1. After the norms of the scales are provided, inter-correlations of variables are conducted and associations between the study variables presented. The inferential results are divided in three components. Each section focuses on the exploration of distress related to positive symptoms, negative symptoms and depressive symptoms. Multiple regressions were conducted to determine which specific subscales of emotion regulation predicted distress related to various psychosis experiences, when the other subscales were held constant. This was also done for metacognition subscales. Important predictors were then carried on to mediation models in order to test if any of these factors mediated the relationship between insecure attachment and distress related to psychosis. Mediation analyses indicated that *need for control* significantly mediated the relationship between *insecure attachment dimensions* (anxiety and avoidance) and *distress related to positive symptoms*. Moreover, *limited access to emotion regulation strategies* mediated the relationship between *attachment anxiety* and *distress related to negative symptoms* of psychosis and *depressive symptoms in psychosis*. *Negative beliefs about the uncontrollability and danger of thoughts* mediated the relationship

between *attachment dimension* and *distress related to depressive symptoms of psychosis*. These findings provide support for the theoretical proposition that insecure attachment dimensions are associated with distress related to psychosis experiences. They also provide empirical support for the model suggested by Read and Gumley (2008), as both emotion regulation and metacognition mediated the relationship between insecure attachment and distress related to psychosis. Interestingly, different variables mediated the relationship between attachment dimensions and distress related to positive and negative symptoms. Overall, these findings provide a novel and important addition to the literature addressing distress related to psychosis experiences.

Chapter 7 starts with background information for the rationale of study 2. It contains information on qualitative methods considered prior to choosing Interpretative phenomenological analysis (discourse analysis, thematic analysis and grounded theory). A detailed overview of Interpretative Phenomenological Analysis (Smith et al., 2009) is then presented and highlights the aspects making this method the most appropriate choice given the focus and the aim of the study. Semi-structured interviews were designed and conducted with ten individuals with a diagnosis of schizophrenia spectrum disorders living in the community in Lothian (a region in Scotland). Participants who completed study 1 were asked if they would be interested in taking part in interviews. Participants were asked open questions to explore individual experiences, shedding novel light on the fluidity and subjectivity of the concepts in ways inaccessible to quantitative inquiry. The analysis was conducted following the steps provided by Smith and colleagues (2009). In addition, a number of other steps were taken to ensure rigour and quality throughout the project.

Chapter 8 details the empirical findings of study 2. Here, the appraisals of people's experiences of psychosis that they relayed are discussed. The four inter-related themes that emerged from those conversations are presented in detail. They are evidenced and illustrated with extensive reference to the data generated with the participants. These themes are; (1) lacking control, (2) change – renegotiating a personal and social identity, (3) living in fear, and (4) multiple realities. Together, these themes are intended to elucidate the appraisals people have of their experiences. The nuance and variations observed amongst participants and within the themes

illustrate additional dimensions of appraisals of psychosis experiences which are less acknowledged in the literature and less accessible to quantitative study. Focusing on people's appraisals of psychosis, instead of specific symptoms, may help reduce people's distress associated with psychosis experiences by rendering visible the processes and experience that play into the production of distress.

Chapter 9 is dedicated to a detailed discussion and integration of the findings of both studies, and drawing conclusions from the research presented. Quantitative and qualitative findings were combined in this project to determine overlapping or different facets of people's experiences in order to achieve a more in-depth understanding of distress related to psychosis experiences. Integration was completed using a joint display meta-matrix. Taken together, both studies highlight the centrality of a perceived lack of control and the significance of interpersonal relationships to the development and maintenance of distress related to psychosis experiences. It is argued that these findings can inform psychological care for people experiencing psychosis, by being sensitive to the origins of this distress as it is located in the accounts of the experts by experience, rather than focusing on the symptoms themselves. The clinical implications suggested for reducing distress related to psychosis experiences include attachment-informed care, peer support services and metacognitive therapy. The findings of this project and the suggestions made from them should be translated into efforts towards providing better outcomes for people experiencing psychosis.

Chapter 2. Psychosis and Distress Related to Psychosis Experiences

2.1 Defining Psychosis

The term psychosis is considered as an integrative and collective term used to describe a range of human experiences (Gumley and Schwannauer, 2006). Mainly, psychosis refers to severe and distressing experiences affecting and altering a person's perceptions, thoughts, feelings and behaviours (National Institute for Health and Care Excellence, 2014). Repeated recurrence of psychosis can bring increasingly pervasive and distressing psychotic experiences and social disability, as well as additional losses (Gumley & Schwannauer 2006). Psychotic illness is classified both within the DSM-V (APA, 2014) and the ICD-10 (WHO, 1992) through several categories; schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, brief psychotic disorder, depression/bipolar disorder with psychotic features and psychotic disorder not otherwise classified. These categories are distinguished in relation to their duration, dysfunction, associated substance use, bizarreness of delusions and presence of depression or mania (van Os & Kapur, 2009).

Although schizophrenia constitutes a small proportion of a much broader multidimensional psychotic syndrome, it has become the focus through which psychosis is predominantly observed, discussed and researched (Guloksuz & van Os, 2017). Even people who have subtle psychosis experiences are classified in relation to schizophrenia, e.g. 'ultra-high-risk of schizophrenia' (van Os & Guloksuz, 2017). Schizophrenia was first identified as a pathological condition by Emile Kraepelin (1902) who described it as a set of specific symptoms, originally divided into positive and negative categories. Although Kraepelin did not name them as positive and negative, he recognised a distinction between symptoms that are more florid and those that were marked by losses and deficits. It is now agreed upon that there is an additional category distinct from the first two: 'disorganised' symptoms (Liddle, 1987).

2.1.1 Positive, negative and disorganised symptoms

Positive symptoms of psychosis are defined as an excess or distortion of normal behaviour or cognition, including hallucinations and delusions (Andreasen, Flaum, Swayze, Tyrrell, & Arndt, 1990). Hallucinations are perceptions in the absence of any stimulus. They are cognitive intrusive mental experiences (Fowler, 2006). It is suggested that hallucinations result from cognitive difficulties in integrating information in the brain, problematic self-monitoring, and information processing (see Frith, 1992; Cosway et al., 2000; Hemsley, 1992, 1995). Delusions are fixed or falsely held beliefs (Rollins, Bond, Lysaker, McGrew, & Salyers, 2010) and can take on a range of themes (e.g. paranoid delusions, delusions of grandeur). It is often the presence of voices and delusional beliefs that leads to hospital admissions (Garety & Hemsley, 1994).

Negative symptoms on the other hand can be distinguished by the absence or reduction of normal functions (Cutting, 2003; Galderisi, Mucci, Buchanan & Arango, 2018). They include anhedonia (described as a loss of interest or pleasure), apathy (where the person is unaffected by what happens in their lives), emotional withdrawal, low energy and motivation, poor attention to hygiene and grooming (Kirkpatrick, Fenton, Carpenter, & Marder, 2006). Negative symptoms can be very heterogeneous and it is important to differentiate primary symptoms from secondary and persistent from transient (Galderisi, Mucci, Buchanan & Arango, 2018). Whilst negative symptoms may go unnoticed by their sufferers, they are often apparent to people in contact with them (Rollins et al., 2010). Kraepelin (1919) considered negative symptoms to be more devastating than positive symptoms (cited in Andreasen et al., 1990). Negative symptoms are a major cause of reduced quality of life (Bow-Thomas et al., 1999; Ho et al., 1998; Stahl & Buckley, 2007). They are often related to poor clinical outcome and arrested recovery (Milev, Ho, Arndt & Andreasen, 2005; Macbeth, Gumley, Schwannauer, Carcione, Mcleod & Dimaggio, 2015; McLeod, Gumley, MacBeth, Schwannauer, & Lysaker, 2014a). Further, no medical nor psychosocial treatment have shown robust efficacy in dealing with primary and enduring negative symptoms (Galderisi, Rossi, Rocca, Bertolino et al., 2014; Stahl & Buckley, 2007; Lutgens, Garieoy & Malla, 2017). This may lead to people experiencing multiple episodes primarily exhibiting negative symptoms and fewer

positive or disorganised symptoms (Hulshoff Pol & Kahn, 2008). Negative symptoms of psychosis are under-researched and poorly understood compared to positive symptoms, as are the mechanisms involved in their development and maintenance (Couture, Blanchard, & Bennett, 2011; Galderisi et al., 2018).

In addition to positive and negative symptoms, factor analytic studies investigating psychosis symptoms found that they can be divided into three uncorrelated dimensions with the inclusion of disorganised symptoms (Liddle, 1987). This three factor model proposed by Liddle (1987) has been confirmed by several studies (Eaton, Thara, Federman, Melton & Liang, 1995; Arndt, Andreasen, Flaum, Miller & Nopoulos, 1995). Disorganised symptoms refer to disorganised behaviour, speech and thought and are often displayed by individuals experiencing psychosis (Cutting, 2003). They can be understood as a reflection of the broader cognitive disorganisation which potentially underlies psychosis (Basso, Nasrallah, Olson, & Bornstein, 1998). Examples of such symptoms are; inappropriate emotional reactions and disorganised thoughts that are evident in the person's speech which cannot be understood by others (Cuesta & Peralta, 1994).

A combination of positive, negative and disorganised symptoms occurring for a period of one month is necessary to receive a diagnosis of schizophrenia (WHO, 1992). Both classification manuals (DSM, APA, 2013; ICD, WHO, 1992) require that the experiences are associated with a certain degree of social or occupational impairment. Psychotic symptoms that occur as a result of drug or alcohol intoxication or dependence (Tien & Anthony, 1990), other disorders with psychotic symptoms, and certain developmental disorders (APA, 2013) need to be excluded according to both the DSM and the ICD.

Psychiatric diagnoses such as schizophrenia allow for the labelling of a cluster of behaviours and experiences, and are also useful in devising the appropriate course of treatment for a given diagnosis. However, diagnostic approaches do not reflect the variability present within psychosis experiences (Boyle, 2014). Indeed, two people can have the same diagnosis but have completely different presentations and outcomes (Bentall, Jackson & Pilgrim, 1988; Read, 2004). In addition, psychosis diagnoses can be unreliable as an individual's symptoms can vary over time (Fowler, 2000; Heslin

et al., 2015). Thus, the classification system may be an over simplification of people's experiences (Kitamura, Okazaki, Fujinawa, Yoshino & Kasahara, 1995). It can also be suggested in line with the variability of people's experiences both over time and between individuals that, first-episode diagnoses should be avoided since they may be transient (Heslin et al., 2015).

Another point of critique for diagnostic models of psychosis is that diagnostic criteria changes with each new version of the diagnostic manual, it is thus not established as an objectively existing concept and lacks reliability (Bentall, Jackson & Pilgrim, 1988; Coryell, 2011; Kendell & Jablesky, 2003; Read, 2004). The categorical framework imposed by diagnostic models was further criticised following findings suggesting that psychosis experiences are present in the general population as well as clinical population, thus altering perceptions of these experiences (van Os, Gilvarry, Bale, Van Horn, Tattan & White, 1999, van Os, Linscott, Myin-Germeys, Delespaul & Krabbendam, 2009). Moreover, categorical frameworks of experiences often do not acknowledge comorbid experiences, such as depression, which are very common (Hyman, 2010; Valderas, Starfield, Sibbald, Salisbury & Roland, 2009).

2.1.2 Depression in psychosis

Factor analysis studies suggest that depression is an additional dimension alongside positive and negative symptoms (cited in Birchwood, 2003). Depressive symptoms can precede psychosis (Hafner, Maurer, Trendler, and der Heiden, Schmidt & Konnecke, 2005), emerge in concurrence with psychosis experiences or following a psychosis episode (Birchwood, Iqbal, Chadwick & Trower, 2000; Kuipers, 2005). Depressive symptoms may also contribute to the occurrence or persistence of positive symptoms like hallucinations and delusions (Garety et al., 2001; Freeman, Garety, Kuipers, Fowler & Bebbington, 2002). Existing research suggests that experience of depression is a key factor in poor quality of life in psychosis (Iqbal, Birchwood, Chadwick & Trower, 2000) and schizophrenia (Meijer, Koeter, Sprangers & Schene, 2009). Birchwood (2003) suggested that there are three potential pathways to depression in psychosis. First, depression might be intrinsic to psychosis. Second, depression may arise from individuals' reaction to psychosis, their appraisals of their

experiences and their reaction to 'patienthood', for example, hopelessness. Third, childhood trauma, developmental disturbances or both can lead to dysfunctional cognitive schemas that affect a person's adaptation to their experiences of psychosis (Birchwood, 2003).

Birchwood and colleagues (2000) conducted a longitudinal study investigating depression in psychosis; 36% of their sample developed depression of moderate intensity within a year of the onset of psychosis. Patients that did develop post-psychotic depression, had a greater sense of loss and humiliation and felt entrapped by their illness compared to people who did not (Iqbal et al., 2000). In a second paper from the same study, Iqbal and colleagues (2000) compared groups with and without post-psychosis depression (PPD) and investigated people's appraisals and vulnerability factors (beliefs about psychosis, insight and cognitive vulnerability). They found that the PPD groups had significantly more negative appraisals of their experiences compared to the non-PPD group. These included entrapment (control over illness), shame, loss of autonomy and valued social role, humiliation and attribution (self or illness responsible for experiences). Further, people who developed PPD had lower self-esteem when compared to the non-PPD group even before developing depression. In relation to insight, no differences were observed at the first time point. When depressed however, the PPD group had significantly higher insight with reference to their awareness of their illness, labelling of symptoms and need for treatment. This suggests that people may indeed be depressed about their psychosis. In that sense, the nature and type of appraisals leading to depression may also influence the distress people feel in relation to psychosis. It is therefore important to investigate psychological vulnerability factors contributing to the maintenance of distress related to depressive symptoms in psychosis. Besides the maintenance of psychosis experiences, the factors influencing the development of psychosis experiences are unclear. Therefore, gaining a better understanding of the factors involved in the development and maintenance of psychosis experiences is of great importance for interventions, treatment and prevention of psychosis (Fowler, 2000).

2.2 The Aetiology of Psychosis

There is no one theory that provides a full understanding of the aetiology of psychosis (van Os & Kapur, 2009). Rather, a holistic understanding of psychosis experiences can be achieved by linking phenomenological experiences with social, psychological, and neurobiological levels of explanation (Garety et al., 2001). In the biological literature, the neurotransmitter dopamine hypothesis (Kapur, Mizrahi & Li, 2005) and neurodevelopmental genetic theories (Gottesman, 1991) are understood to contribute to the development of psychosis. On the other hand, psychosocial theories of psychosis explore adverse childhood experiences as vulnerability factors to psychosis (Bebbington, Bhugra, Brugha, Singleton, Farrell, Jenkins & Meltzer, 2004). These vulnerability factors will be elaborated upon next. Each of these models make a contribution to the understanding of the aetiology of psychosis. Acknowledging their limitations and accepting that all contribute to the development of psychosis led to the adoption of the biopsychosocial approach to the aetiology of psychosis.

2.2.1 Biological factors

The dopamine hypothesis is the longest enduring biological theory of schizophrenia. It attempts to elucidate pathogenic mechanisms of the disorder in relation to increased dopamine levels (Howes & Kapur, 2009; van Os and Kapur, 2009). Kapur (2003) posits that in psychosis an increased release of dopamine leads to increased attributions of salience to events and stimuli. This induces a “somewhat novel and perplexing state marked by exaggerated importance of certain percepts and ideas” (p. 15), thus creating confusion. It is argued that an over-activity of dopamine systems in the mesolimbic pathway has an influence on the positive symptoms of psychosis (Kapur, Mizrahi & Li, 2005). Antipsychotics suppress the dopamine function in the brain by blocking the dopamine receptors. Since antipsychotics reduce positive symptoms, the consensus was that schizophrenia must be due to increased dopamine levels (Kapur et al., 2005). Although this appears straightforward, antipsychotic drugs have no effect on negative or disorganised symptoms and therefore, the dopamine hypothesis alone does not explain the development of all psychotic symptoms (Kapur et al., 2005).

Genetic theories on the other hand, suggests an underlying genetic component to psychosis that results in the biological or neurological disturbances observed (van Os & Kapur, 2009). The evidence for genetic theories of psychosis comes from twin studies, suggesting the syndrome has 80% heritability (see Gottesman, 1991; van Os & Kapur, 2009 for reviews). While these attest to the existence of a relationship, single genes of major effect have not been identified and high phenotypic heterogeneity has been acknowledged (Derks, Boks & Vermunt, 2012). There is, therefore, evidence for an increased risk amongst family members, which is indicative of a genetic transmission of increased vulnerability (Gottesman & Erlenmeyer-Kimling, 2001). However, nine out of ten children of parents who have a diagnosis of psychosis do not experience psychosis. Similarly, nine out of ten people who do experience psychosis do not have a family member who does (Gottesman & Erlenmeyer-Kimling, 2001; French & Morrison, 2004). Gene theories are therefore not sufficient to explain the development of psychosis. A recent development has been the shift towards identifying genes that are associated with a cognitive 'endophenotype' that is in turn associated with schizophrenia (David, 2010). These differences have also been observed in close relatives of people experiencing schizophrenia. Furthermore, these cognitive markers (endophenotypes) can be identified before the development of any psychotic symptoms, therefore suggesting a more productive avenue in understanding the genetic risk of schizophrenia (Greenwood et al., 2007; Gur, Keshavan & Lawrie, 2007). Overall, the existing knowledge suggests that genetic predisposition is unlikely to be a sufficient explanation for the expression of psychosis, rather, biological explanations for psychosis are compounded by psychosocial vulnerability factors (Broome et al., 2005; van Os & Sham, 2003).

2.2.2 Psychosocial models of psychosis

Research has associated a number of vulnerability factors as contributors to the onset of full blown psychosis, for instance, urbanicity (Krabbendam & van Os, 2005; Spauwen, Krabbendam, Lieb, Wittchen & van Os, 2004), ethnic minority status (Cantor-Graae & Selten, 2005), childhood trauma (Read, Flowers & Larkin 2005; Varese et al., 2012), major life events (Van Os et al., 2009) and cannabis use (Henquet, Murray, Linszen & van Os, 2005). Whilst it is important to acknowledge the variety of vulnerability factors related to the onset of psychosis experiences, not all of these

factors will be elaborated upon in this thesis.

The stress-vulnerability model of psychosis is a widely accepted approach, it states that biological factors do not exist in a vacuum and thus, incorporates the need for circumstances to elicit genetically encoded materials (Myin-Germeys, van Os, Schwartz, Stone & Delespaul, 2001; Myin-Germeys & van Os, 2007; Zubin & Spring, 1977). The stress-vulnerability model postulates that when the stress people experience surpasses the individual's vulnerability level, mental health difficulties may occur (Zubin, Magaziner & Steinhauer, 1983; Morrison, Nothard, Bowe & Wells, 2004). For instance, Wicks, Hjern, Gunnell, Lewis and Dalman (2005) investigated socio-economic status in childhood and the incidence of schizophrenia in a Swedish sample of two million. They found a 'dose-response' association between indicators for adversity during childhood and the incidence of schizophrenia in adulthood; the higher the adversity the more likely people were to develop schizophrenia later on in life. Adverse childhood experiences lead to disruptions in cognitive processes of attention, and perception or judgement often alongside emotional changes (Fowler, Garety & Kuipers, 1995). Bebbington and colleagues (2004) interviewed over 8000 adults with a range of mental health difficulties. They found that experiences of victimisation during childhood were particularly closely associated with developing schizophrenia. Early developmental adversities are therefore considered key to the development of psychosis, these vulnerabilities include adverse childhood experiences, interpersonal trauma, including physical, sexual and psychological abuse, parental emotional neglect and dysfunctional parenting (Birchwood, 2003; Read, van Os, Morrison & Ross, 2005; Varese et al., 2012). Indeed, insecure attachment patterns are also psychological constructs that are proposed to be related to the developmental trajectory from childhood adversity to psychosis phenomena (Berry, Wearden, Barrowclough & Liversidge, 2006).

A key point to reiterate here is that not all individuals who experience childhood adversity will develop psychosis and not all people who have psychosis experiences had traumatic childhoods. The association is therefore more complex and causality cannot be inferred (Romme & Escher, 2000). Research into childhood adversity and associated developmental and psychological difficulties form vulnerability factors to the development and maintenance of psychosis (Varese et al.,

2012). Biological models are also likely to constitute a vulnerability factor and contribute to the development of psychosis. Therefore, a holistic biopsychosocial approach to the onset and maintenance of psychosis seems to be the most appropriate to understand and to treat psychosis experiences. The increased evidence for an important role played by psycho-social vulnerability factors in relation to the aetiology of psychosis has also been heightened by the understanding that psychotic-like experiences also exist in the general population, thus proposing dimensional approaches to psychosis.

2.3 Dimensional Approaches to Psychosis

Approaches to the study of psychosis on a continuum derive from two models that mainly differ in their prediction of the frequency of sub-clinical symptoms in the general population. First, the quasi-dimensional model derived from Meehl's (1989) work assumes that only a small portion of the population carries the 'schizogene' which produces an aberration in synaptic signal selectivity leading to the production of a defect in neurointegrative processes called 'schizotaxia'. He postulated that in some cases, schizotaxia led to schizotypy, a necessary but not sufficient precursor for the emergence of schizophrenia. Overall, his approach suggested that only a small percentage of the population can be represented on the psychosis continuum (Meehl, 1989 in DeRosse & Karlsgodt, 2015). It is now known that there is not one risk allele but rather a large number of genetic variants (Purcell et al., 2009), Meehl's understanding is therefore partly supported by research focusing on schizotypal personality (e.g. Haslam, Holland & Kuppens, 2012; Rawlings, Williams, Haslam & Claridge, 2008). The fully dimensional model mainly derives from the work of Claridge (1987) and it assumes that psychotic symptoms exist along a continuum encompassing the entire population rather than its presence or absence. This approach treats schizotypy as a personality trait continually distributed in the general population (Ettinger, Meyhöfer, Steffens, Wagner & Koutsouleris, 2014). Claridge (1987) posited that this trait highlights individual differences, and in extreme cases lead to a diagnosis of schizophrenia. The high prevalence of psychotic-like experiences in the general population is in accordance with the fully dimensional approach (e.g. Lincoln, 2007). Although there is not a definite conclusion as to whether quasi- or fully dimensional models are most accurate, based on their operational definitions, research into the

continuum of psychosis mainly ascribes to one model above another (DeRosse & Karlsgodt, 2015). For instance, and of relevance to this project, the Community Assessment of Psychic Experience scale (CAPE; Stefanis et al., 2002) is viewed as ascribing to and measuring a fully dimensional understanding (DeRosse & Karlsgodt, 2015).

There are three ways in which psychosis continuity is considered: phenomenological, temporal and structural (Linscott & van Os, 2013). Phenomenological continuity refers to psychotic experiences that can be characteristic of disorders but are not exclusive to disorders. Psychosis experiences are independent of disorders, thus, they are only quantitatively different to personality variables explored in psychosis-proneness or schizotypy (Linscott & van Os, 2013). Temporal continuity refers to experiences persisting over time. Finally, structural continuity refers to the distribution of psychotic experiences in the general population. Thus relating to whether the overall population is composed of one class of people with a similar phenotype without quantitative variations or multiple classes of people with qualitatively distinguishable phenotype that also may vary quantitatively (Johns et al., 2014; Linscott & van Os, 2013). van Os and colleagues (2009; van Os & Linscott, 2012) devised the psychosis-proneness-persistence-impairment model that involves both phenomenological and temporal continuity. This model postulates that expressions of psychotic experiences are common and often transient in nature. However, stressors can act to prolong and exacerbate people's experiences which increases the probability for a need for care, and possibly a diagnosis (van Os et al., 2009).

On the phenomenological continuum of psychosis, the 'high end' of the scale represents people with clinical psychotic experiences such as schizophrenia and delusional disorder, with experiences severe and frequent enough to meet the diagnostic criteria and causing significant distress and/or functional impairment (van Os et al., 2009). Next, there are the 'prodromal' or 'ultra-high risk' groups that have isolated or attenuated symptoms that are distressing and prompt help-seeking behaviour, whilst not being enough for a diagnosis. Further, there are individuals in the general population who experience psychotic-like experiences (PLEs), which can be defined as mild psychotic symptoms. These are 'subclinical' manifestations and are

usually transient (DeRosse & Karlsgodt, 2015; Dominguez, Wichers, Lieb, Wittchen & van Os, 2009) and not distressing enough that the person will seek help (Ahmed, Buckley & Mabe, 2012). Overall, the psychosis phenotype expressed at levels below its clinical manifestation is commonly and interchangeably referred to as psychotic experiences (van Os, Hanssen, Bijl & Ravelli, 2000), psychosis proneness (Chapman, Chapman, Kwapil, Eckblad & Zinser, 1994), at-risk mental states (Yung, Phillips, Yuen & McGorry, 2004) or schizotypy (Stefanis et al., 2002; Mason & Claridge, 2015).

There is a wealth of evidence suggesting that psychotic-like phenomena can be detected within non-clinical populations (Bentall, 1993; Hanssen, Bak, Bijl et al., 2005; Rössler et al. 2007, 2015; Scott, Chant, Andrews & McGrath, 2006; van Os et al., 2000; van Os et al., 2009). A way to approach this inquiry is to investigate psychotic-like anomalous experiences in the general population (Johns & van Os, 2001). Beck and Rector (2003) did that and reported that 4-25% of the general population experience auditory hallucinations at some point in their lives: in 80% of these cases, the experiences disappear and do not come back and therefore people do not come in contact with mental health services. This attests to the transient nature of some experiences of psychosis (Hanssen, Bak, Bijl, Vollebergh & van Os, 2005). It also strengthens the understanding that psychosis experiences can occur on a continuum independently from psychotic disorders (Allardyce, Gaebel, Zielasek, & van Os, 2007; Heckers et al., 2013; Guloksuz & van Os, 2017; Linscott & van Os, 2010, 2013; van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009). Simply put, members of the general population can have psychosis experiences that are merely quantitatively different from those experienced by people with a diagnosis of psychosis. Evidence suggests that the experiences differ mainly in terms of their frequency and intensity, as well as the degree of associated distress and impairment (Johns & van Os, 2001).

The large scale (N=7076) Netherlands Mental Health Survey and Incidence Study (NEMESIS study; van Os, Hanssen, Bijl & Ravelli, 2000) also focused on a general population sample. They found that 17.5% of the sample endorsed at least one of the positive psychotic symptoms while only 2.1% had a DSM diagnosis (then DSM-III-R; APA, 1987). This demonstrates that only a small portion of the total phenotypic

contribution is represented by clinically identified cases. In the UK, Johns and colleagues (2004) analysed self-reports from the National Survey of Psychiatric Morbidity (N=8,580) to determine prevalence rates in adults (aged 16-74). They assessed psychotic symptoms in the last year (they used the psychosis screening questionnaire, PSQ; Bebbington & Nayani, 1995) and 5.5% of the sample reported at least one psychotic symptom. Interestingly, a large number of endorsements were present for initial probe questions (e.g. the statement “Have there been times when you felt that people were deliberately acting to harm you or your interests?” was affirmed by 9.1%) compared to more specific secondary questions (e.g. the statement “Have there been times when you felt that a group of people were plotting to cause you serious harm or injury?” was affirmed by 1.5%). This suggests that whilst people do seem to hold unusual beliefs, their beliefs were perhaps not as developed as most psychosis delusions might be. It is therefore important to treat the numbers associated with psychotic-like experiences with caution as they might be over representative.

Van Os, Linscott, Myin-Germeys, Delespaul & Krabbendam (2009) conducted a systematic review and meta-analysis of population studies of subclinical psychotic symptoms. Their results suggested substantial variations across cohorts and studies and they found that more than 8% of the population report psychotic experiences, the median prevalence overall was 5.3%. However, it is possible that this number is an overestimation as they included self-report measure that records experiences that, while they may be similar to psychotic experiences, they likely do not constitute evidence of psychosis. To test this, Linscott and van Os (2012) conducted a more conservative systematic review. They still found a prevalence of 7.2% which is consistent with their previous review. They also identified that psychotic-like experiences share similar vulnerability factors with psychosis experiences, schizophrenia in particular, in that the risk is higher with younger people, ethnic minorities and migrant groups, and lower paid less educated people (Linscott & van Os, 2012). Exposure to alcohol, drug use, stressful or traumatic events, and a family history of mental illness all predicted greater risk of psychotic experiences.

There is therefore strong evidence for a continuum of psychotic experiences in the general population. These findings lead to the understanding that the distinction between ‘normal’ and psychosis beliefs are a matter of degree, not a qualitative

difference (Johns et al., 2014). Research focusing on a normal population consistently found that a percentage of the population have psychotic-like experiences at some point in their lifetime but they are not prominent or frequent, or distressing enough to lead to a need for care and a diagnosis (Bak, Myin-Germeys, Hanssen, Bijl, Vollebergh, Delespaul & van Os, 2003; van Os et al., 2009). The evidence of psychotic-like experiences in the general population suggests that the clinical definition of psychosis only represents a minor selection of the total phenotypic continuum (Johns & van Os, 2001). The presence of disorder is perceived to be related to symptom factors such as intrusiveness, frequency and psychopathological comorbidities, as well as personal and cultural factors such as coping, illness behaviour, and the degree of associated developmental impairment (Johns & van Os, 2001).

Another line of inquiry within the continuum view of psychosis has been to investigate the similarities and differences in psychosis experiences of individuals in the general population who report psychotic experience but are not in contact with mental health services (non-need for care) and individuals in the clinical population who are in contact with mental health services (need for care). Most recently, Peters and colleagues (2016) conducted a very detailed investigation of clinical characteristics in individuals with persistent psychotic experiences with and without a need for care. They measured psychotic experiences using three measures (AANEX, Brett et al., 2007; SAPS, Andreasen, 1983; SANS, Andreasen, 1984). They found that first rank symptoms were also commonly reported in non-clinical sample, however their lifetime frequency (but not current) was higher in the clinical group. One important difference was that the clinical group had more severe and frequent symptoms compared to the non-clinical group (Bak, Myin-Germeys, Hanssen et al., 2003). Thus, the intensity and recurrence of psychosis experiences can contribute to distress and need for care. Participants in the non-clinical group had nearly no negative symptoms. Peters and colleagues' (2016) results are in line with other study findings suggesting that positive symptoms are weaker predictors of transition to full blown psychosis and poor outcomes; instead, negative and disorganised symptoms and subjective cognitive difficulties are better predictors (Fusar-Poli et al., 2012; Morita, Kobayashi, Takeshi, Tsujino, Nemoto & Mizuno, 2014; Valmaggia, Stahl, Yung, Nelson, Fusar-Poli & McGorry, 2013). However, comparative studies (clinical vs.

non-clinical) predominantly focus on positive symptoms to gain a better understanding of people's appraisals and beliefs. This can be explained by the lack of negative symptoms in the non-clinical and control populations. Clinical research is therefore necessary to investigate appraisals and distress related to negative symptoms of psychosis.

In a seminal study for the understanding of distress related to psychosis experiences, Peters, Day, McKenna and Orbach (1999a) compared experiences of delusions in different groups. They found that individuals belonging to a new religious group (NRMs) showed similar levels of florid delusions as psychotic patients, and further, they could not be differentiated from the clinical group on the number of delusional ideation items, or their level of conviction. However, they were significantly less distressed and preoccupied by their experiences. The distress people associate with their experiences relates to the importance with which experiences are perceived and interpreted. Peters and colleagues (1999a) suggest that the form of the experiences may be more important than their content; "it is not *what* you believe, it is *how* you believe it" (p.94). This is understood within the context of cognitive models of psychosis (Garety et al., 2001; Morrison, 2001). They suggest that a key component that leads people to seek help for their experiences is how psychosis experiences are appraised, their context and people's emotional responses to their experiences (Brett et al., 2007). Cognitive models of psychosis are elaborated upon before exploring how people experiencing psychosis appraise their experiences in more detail.

2.4 Cognitive Models of Psychosis

Cognitive theories of psychosis elucidate the mechanisms involved in the onset and maintenance of psychosis experiences. They allow for insight into how appraisals and beliefs about one's experiences relate to psychosis related distress (Chadwick & Birchwood, 1994; Fowler, 2000; Garety et al., 2001; Garety, Bebbington, Fowler, Freeman & Kuipers, 2007; Morrison, 2001). Cognitive models of psychosis are compatible with the continuum view of psychosis (Kuipers, Garety, Fowler, Freeman, Dunn & Bebbington, 2006). They identify social, emotional and cognitive processes as crucial in facilitating the transition between sub-clinical and clinical presentations

(Garety et al., 2001; 2007; Morrison, 2001). Furthermore, they integrate the complex interaction of predisposing neurobiological, environmental, cognitive and behavioural factors with the specific symptoms displayed by the person (Beck, 1976 in Morrison, 2001). Two main models address the integrated cognitive components of psychosis with a focus on delusions (Garety et al., 2001, 2007) and hallucinations (Morrison, 2001).

The cognitive model developed by Garety et al. (2001) begins with the assumption that psychosis occurs in people who have a vulnerable predisposition of bio-psycho-social origin (Bentall, Kinderman & Kaney, 1994; Frith, 1992; Hemsley, 1993). Garety and colleagues (2001) emphasise disruption in cognitive processes and periods of emotional change as being related to the development of symptoms, suggesting that cognitive changes lead to anomalous conscious experiences. They predict that the development of psychotic-like experiences stem from two proximal routes (see figure 1). The first route is deemed the most common and includes both affective and cognitive changes. It starts with a triggering event in a predisposed person. This creates a disruption in cognitive processing which results in the perception of an ambiguous or anomalous experience. It is worth mentioning at this point that this cognitive model of psychosis argues that adverse early experiences create an enduring cognitive vulnerability, through negative schematic models, which then lead to external attribution of experiences. This perception is followed by an emotional response and search for meaning. At this stage, the transition between subclinical level and full-blown psychosis depends on whether or not people perceive their experiences as being personally significant, external and threatening. These perceptions are influenced by a number of cognitive biases (e.g. jumping to conclusions, attentional biases; Garety & Hemsley, 1994; Morrison, 1998). Dysfunctional schemas and adverse social environments are also believed to contribute to the onset and maintenance of psychosis experiences. Specifically, distorted beliefs about the self, others and the world are likely to contribute to the maintenance of psychotic beliefs (Garety et al., 2001). Contextual factors (such as isolation) may also maintain the appraisal of anomalous experiences in reducing the person's ability to find alternatives. In addition, emotional distress (e.g. anxiety and depression) are likely to contribute to the maintenance of psychotic appraisals through other processes, such as metacognitive beliefs that may increase distress related to

psychosis (Freeman & Garety, 1999). Finally, ‘secondary appraisal’ is related to appraisal of the psychosis itself, and how it is perceived by the person and others. The second route described by Garety and colleagues (2001) solely involves affective responses; life events are seen to trigger experiences. Hence, an externalising appraisal of experiences is made without the need for a cognitive disturbance producing the anomalous experience. Once developed, the authors propose that the maintenance of psychosis experiences follows a similar reasoning. This model provides impetus for an understanding of the pathways and mechanisms associated with the appraisals that lead to distress related to psychosis experiences (Brett et al., 2014).

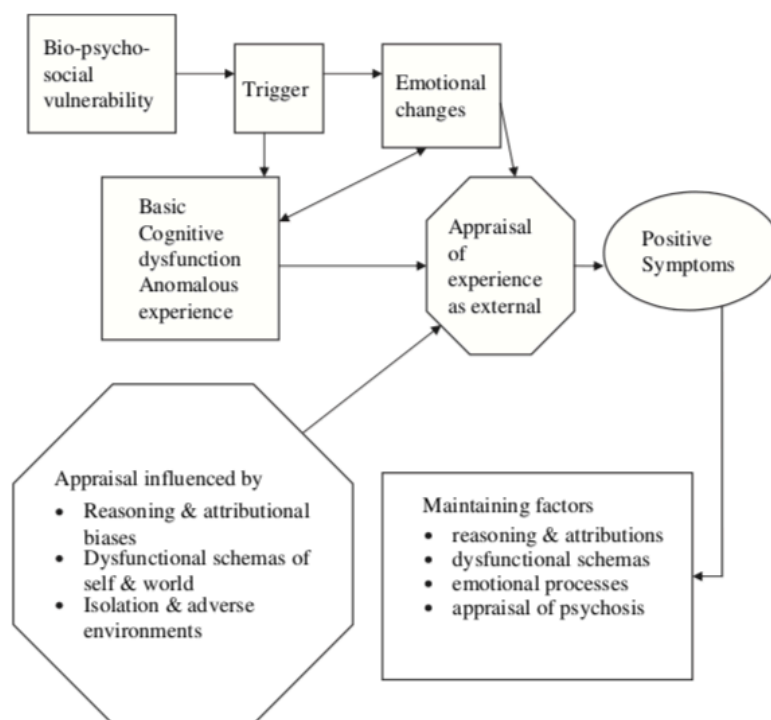


Figure 1. *A cognitive model of positive symptoms of psychosis (as discussed by Garety et al., 2001 in Kuipers et al., 2006)*

In parallel with Garety and colleagues (2001), Morrison (2001) also developed an integrated cognitive model of psychosis with slight differences (see figure 2). He argues that positive psychotic experiences can be conceptualised as intrusion into awareness (e.g. hearing voices) or culturally unacceptable interpretations of these intrusions (e.g. persecutory delusions). Morrison (2001) thus explores interpretations of intrusions; in this context, interpretations are defined as external stimulus information, cognitive state information and body state information (Wells &

Matthews, 1994). How intrusions are interpreted mediates the relationship between the intrusion and its associated distress and consequent difficulties. Morrison (2001) proposes that it is the appraisal of the experiences that result in distress and disability (see also Chadwick & Birchwood, 1994). This appraisal process is shaped by the individual's beliefs formed through life experiences about the self, the world and others. These intrusions are maintained through a number of factors including mood, and cognitive, behavioural and physiologic responses. These behavioural responses are highlighted in the cognitive analysis of a number of psychological difficulties, including GAD, OCD and panic disorders (Wells, Clark, Salkovskis, Ludgate, Hackman & Gelder, 1995; Salkovskis, 1985; Clark, 1986).

This attests to the transdiagnostic approach of the cognitive model (Harvey, Watkins, Mansell & Shafran, 2004). What does differentiate psychosis from other psychological difficulties is that psychosis experiences are perceived as culturally unacceptable (e.g. a lump related to cancer fear vs. a lump as an indication of an alien transmission device). Morrison (2001) proposed that beliefs about the dangerousness, unwantedness or uncontrollability of mental events rather than their content predict both distress and voice occurrence. He predicted that people who hold beliefs about mental events being unwanted and unacceptable are more likely to attribute them to an external source in order to reduce cognitive dissonance (Morrison & Baker, 2000). This is in line with Garety and colleagues' (2001) cognitive model of psychosis, as they suggest that psychotic outcome only occurs if people appraise their experiences as being externally caused and of personal significance.

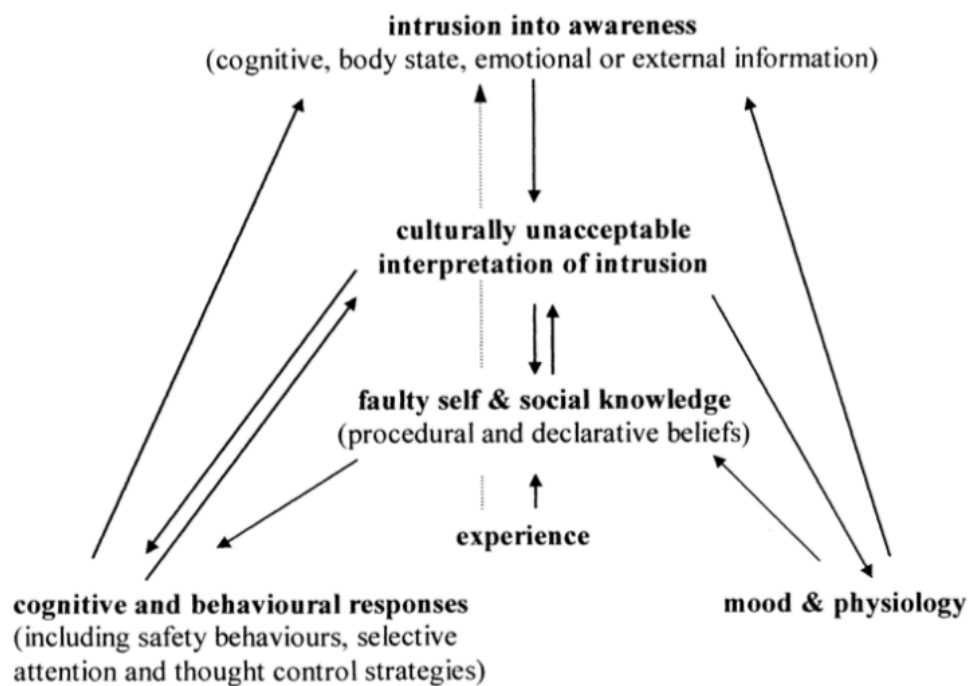


Figure 2. *A model of psychosis by Morrison (2001, p. 261)*

Both models allocate great importance to distress related to psychosis experiences by associating it to appraisals and the beliefs about experiences of psychosis as well as the maintenance of these experiences. A factor differentiating the two models is that Morrison (2001) views psychotic experiences as normal psychological phenomena, that is, they are perceived to be normal and understandable for the person experiencing them. Morrison (2001) considers the ‘cultural unacceptability’ of psychosis experiences as differentiating from other psychological difficulties. Contrastingly, Garety and colleagues (2001) perceive cognitive dysfunction (e.g. information processing deficits) as leading to anomalous experiences, and distinguishing psychosis from anxiety or depression. Morrison (2001) suggests that people’s interpretations are dependent of the beliefs they form through life experiences regarding the self, others and the world (Morrison, 2001). Overall, cognitive models attribute importance to people’s search for meaning and subsequent interpretations of their experiences which is determined by their past experiences. Cognitive models of psychosis propose that within the continuum of psychosis a key factor in determining whether someone will seek help for their experiences (need for care) is people’s appraisals of their experiences. When

experiences are interpreted as threatening and external or personally significant, people are likely to be distressed about them (Garety et al., 2001). Thus, appraisals are key to understanding distress related to psychosis experiences and its maintenance.

2.5 Appraisals and Distress Associated with Psychosis Experiences

As psychosis experiences exist on a continuum, and thus can be identified in the general population, it is now accepted that psychotic-like experiences do not necessarily lead people to seek help and receive a diagnosis. It is therefore important to understand what leads people to develop a need for care (Johns & van Os, 2001). Previous research found that it is not the implausibility of the conviction but rather people's degree of conviction and distress that lead to help seeking (Garety and Hemsley 1994; Peters et al., 1999a). Distress related to psychotic-like experiences has been identified as a primary indicator of problematic mental health and an important predictor for the onset and relapse in psychosis (Brett et al., 2014). Distress related to psychosis experiences results from people's interpretations of their experiences and specific appraisals (Bentall, 2003; Morrison, 2003). Cognitive models of psychosis suggest that individuals' appraisals of their experiences are key in predicting the outcomes of their anomalous experiences (Garety et al., 2001). Research has therefore focused on gaining a better understanding on people's appraisals to better understand what leads to distress and help seeking.

Brett and colleagues (2007) focused on the factors suggested in the cognitive models of psychosis (Garety et al., 2001, 2007; Morrison, 2001) to develop and validate a semi-structured interview assessing anomalous experiences, appraisals, context and emotional responses to anomalous experiences. They found that the clinical group appraised their experiences to be more negative and dangerous. They were also more distressed by their experiences when compared to the non-clinical group. Clinical groups were more likely to perceive their experiences to be caused by someone else (personalising) (Brett et al., 2007) and psychosis experiences were identified as having personal significance (Mawson, Cohen & Berry, 2010). They were deemed to have external causes (Garety et al., 2001, 2007) and were experienced as uncontrollable (Garety et al., 2007; Morrison & Petersen, 2003). These appraisals can in turn lead to distress associated with psychosis experiences which can lead to help seeking

(Underwood, Kumari & Peters, 2016). The non-clinical sample, on the other hand had more normalising appraisals of their experiences: they appraised their experiences as relatively more positive and benign (Brett et al., 2007). Brett and colleagues (2007) suggested that the positive appraisals people held about their experiences are likely to act as a protective factor from distress.

In a later study, Brett and colleagues (2014) investigated the predictors of distress related to psychosis experiences. They measured distress by asking people how they felt/feel when they experienced a particular symptom. The responses were categorised as negative emotional response, positive emotional response, neutral arousal and unengaged. These were then coded individually and negative emotional responses were taken to represent distress. The authors therefore did not measure the frequency or severity of distress but its presence or absence. This provides limited information about distress as it can be expected, in line with the continuum of psychosis, that people will have variable levels of distress. Despite this limitation, the findings of this study are important to move forward in understanding the factors involved in leading to distress. Brett and colleagues (2014) also found that changes in awareness and cognitive processes, appraisals of experiences as caused by ‘other people’ (e.g. Do you think this was caused by someone or something else? AANEX-CAR, Brett et al., 2007) and greater attempted control over experiences predicted higher levels of distress. On the other hand, the predictors of lower distress were having ‘spiritual’ appraisals, people perceived having greater social support/understanding and greater perceived controllability as well as reacting to experiences with a neutral response (Brett et al., 2014). These findings are in line with the cognitive models of psychosis suggesting that distress relates to how people appraise their experiences and not the experiences themselves (Bentall, Corcoran, Howard, Blackwood & Kinderman, 2001; Garety et al., 2001; Morrison, 2001).

The large majority of research studies that investigated appraisals and then distress related to people’s experiences have used the AANEX measure (Brett et al., 2007, 2015; Peters et al., 2016). The AANEX-inventory records the presence or absence of experiences in pre-determined categories (e.g. dimensions of appraisals include danger, externality, valence and agency). There is also the AANEX-CAR measuring people’s context, appraisals and responses to experiences. Even though the

questions were designed in line with cognitive models of psychosis (Fowler, 2000; Garety et al., 2001; see Brett et al., 2007 for details of the scale), the measure was designed to be coded easily using ordinal ratings for most questions. Its self-report nature is likely to overlook individual differences and personal experiences, context and feelings surrounding people's experiences. It is therefore important to turn to qualitative research to gain a well-rounded understanding of people's appraisals relating to the experiences of psychosis and associated distress in more depth.

2.6 Experiential Accounts of Psychosis

The perspective of the experts by experience has been largely overlooked in mental health research (Larsen, 2004), thus failing to acknowledge the heterogeneity of people's experiences (Read, 2004), and variations in outcomes following psychosis (Allardyce, Suppes & van Os, 2007; Liberman & Koperlowicz, 2002). These observations and limitations led researchers and service users to advocate that conceptualisations of psychosis should be more inclusive of subjective accounts of experiences and their phenomenological nature (Laing, 1960; Boyle, 1990; Bentall, 1990; 2003). Indeed, a benefit of accounting for subjective experiences is a nuanced grasp of people's beliefs, understandings, and interpretations of a series of complex lived experiences as well as individuals' emotional responses to psychosis as a major life event (or set of events) (Anthony, 1993; Gumley, White & Power, 1999). This can be best understood from the experts by experience's perspective (Willig, 2013). For example, the recovery approach to psychosis developed from this understanding. It focuses on personal narratives, citizenship, participation and experiential understanding instead of symptoms, impairments and professional knowledge (Boumans, Baart, Widdershoven & Kroon, 2016; Deegan, 1993).

The focus therefore needs to shift to what matters to the person, in order to improve understandings of how subjective experiences relate to psychological ones (Wilkinson, Joffe & Yardley, 2003). This is important across the entire temporal experience of psychosis. The growing evidence base comprising of qualitative accounts of psychosis from a service user perspective investigates important factors such as understanding the symptoms of psychosis (McCarthy-Jones, Trauer, Mackinnon, Sims, Thomas & Copolov, 2012), their impact on others (McCann,

Lubman & Clark, 2011), stigma (Knight, Wykes & Hayward, 2003), and recovery (e.g. Wood & Alsawy, 2017). By looking at psychosis as a cluster of experiences through a phenomenological lens, the literature is directed towards an in depth and more holistic understanding and appreciation of psychosis experiences. Such a focus can also allow for investigations beyond the symptoms of psychosis, allowing people to focus on their experiences in order to explore the appraisals they make of their psychosis experiences.

The factors that lead people to contact mental services remain unclear (Heriot-Maitland et al., 2012). Distress associated with psychosis experiences has been related to help-seeking (Lovatt et al., 2010). To the researcher's knowledge, there is no qualitative research that has for primary aim to better understand distress associated with people's psychosis experiences. This may be because distress relates to multiple concepts in the literature such as anxiety and depression comorbid with psychosis (e.g. Birchwood, 2003), people may be focusing on different things when they answer questions about distress. Brett and colleagues (2007) postulated that the appraisals people make of their experiences are key in determining whether they will seek help for their psychosis experiences. It may therefore be useful to investigate people's appraisals of their psychosis experiences to understand how they make sense of their experiences. To date there is no qualitative research that provides a nuanced understanding of the appraisals people in contact with mental health services make of their psychosis experiences either. However, a number of studies provide in-depth information on people's experiences of psychosis and their appraisals. A review of the literature highlighted a number of studies investigating people's experiences of psychosis. Studies focused on (1) people's search for understanding and meaning making of their experiences, (2) their perception of the self in relation to psychosis, (3) people's sense of lacking control, and (4) feeling isolated.

2.6.1 Searching for understanding

A common concern that arose across the studies reviewed was that participants try to make sense of their experiences and search for understanding as a first response following the onset of psychosis. Holt and Tickle (2015) specifically investigated how people construct meaning about the origins and maintenance of their voice hearing. They proposed that meaning making takes place in three sub-categories; personal

meaning-making, shared sense-making and mental health services. *Personal meaning making* related to people's active attempts to make sense of their voices through private enquiry. When trying to make sense of their experiences, people were confused by the variations in voice presentations and the different traits voices can have. *Shared sense-making* took place when people were unable to make sense of their experiences alone, they therefore sought information from various sources such as peer support groups or internet searches. The role played by *mental health services* in understanding voice hearing experiences were mentioned as a form of shared-sense making (Holt & Tickle, 2015). At times, people felt like they were misunderstood by others and the mental health services. This led people to feel unsupported in trying to understand their experiences. It also had an effect on how people reacted and dealt with their experiences (Chin, Hayward & Drinnan, 2009). Identifying how people construct and understand the origins and maintenance of distressing voices was deemed important to understanding how people make sense of their experiences (Boumans, Baart, Widdershoven & Kroon, 2016; Heriot-Maitland et al., 2012). In Stopa, Denton, Wingfield and Newman-Taylor's (2013) research, participants described a 'parallel understanding' where people were aware that their perceptions of their experiences were not shared by others. This awareness was related to further difficulties in meaning making, isolation and an increased sense of being different (Makdisi, Blank, Bryant, Andrews, Franco & Parsonage, 2013; Stopa et al., 2013).

Despite individuals' efforts and the involvement of others, some people felt like they still did not gain a satisfactory explanation for the origins or meaning of their experiences. This led to feelings of helplessness and hindered efforts to come to terms with their experiences, making it more difficult for people to move forward (Holt & Tickle, 2015; Waite, Knight & Lee, 2015). For instance, people who were not in contact with mental health services, engaged in 'active acceptance' (Boumans et al., 2016, p.6) as a key coping strategy, this facilitated their understanding and they moved forward in their lives through acceptance.

How people perceive others' understandings of their experiences therefore seems to play an important role in how people experience and make sense of psychosis. Boumans and colleagues' (2016) non-clinical sample suggested that when people had previous knowledge and background understanding of psychosis, this helped them

incorporate the experiences by providing a meaningful context. Heriot-Maitland and colleagues (2012) interviewed people with both psychotic-like experiences, and with a diagnosis. Participants in the clinical groups were more likely to have awareness of their experiences being pathologised than normalised (Heriot-Maitland et al., 2012). Similarly, in relation to interactions with others, the clinical sample had less validating interactions and more invalidating ones (Waite et al., 2015). Heriot-Maitland (et al., 2012) concluded that prior conceptual knowledge and receiving validation and acceptance from others was an aspect differentiating non-clinical and clinical groups, which may act as protective factors against negative appraisals, distress and need for help. Thus, both appraisals and the social context in which they occur seem to be important in the meaning making process. Further investigation of people's meaning making is needed to better understand the appraisals contributing to the maintenance of distress related to psychosis experiences. This had consequences for the way experience were incorporated in people's lives.

2.6.2 Perception of the self

Several studies highlighted that participants reported grappling with their perceptions of the self and where the self sits in relation to psychosis experiences. People described a sensation of ego loss as a result of the emergence of psychosis experiences (Heriot-Maitland et al., 2012). This was explained as a breakdown of the normal psychological relationships between mind and body, as well as interpersonally between the self and others (Holt & Tickle, 2015; Stopa et al., 2009).

Waite, Knight and Lee (2015) investigated the critical processes that promote recovery from psychosis through a person's relationship to the self. They interviewed ten people from a community mental health team, and used Interpretative Phenomenological analysis (IPA). They claim that a person's relationship to their self may facilitate or hinder recovery. They specifically focused on self-to-self relating, self-compassion and self-criticism. Self-criticism relates to how a person interacts with themselves (Hutton, Kelly, Lowens, Taylor & Tai, 2013) and it was common when people reflected on themselves and their experiences. Waite, Knight and Lee (2015) uncovered a vicious cycle where psychosis triggered self-criticism and this perpetuated psychosis experiences. For instance, the development and role of

grandiose beliefs in people's lives were described as a defence against low self-worth and powerlessness, as well as a lack of support (Strand et al., 2015). Self-worth was also mentioned in relation to people's efforts to deal with their voices (Chin et al., 2009) and paranoia (Campbell & Morrison, 2007) and the power attributed to them.

Waite and colleagues (2015) suggested that distress is composed of a multiplicity of experiences, caused by internal and external factors. How people perceive their self can thus be distressing (Heriot-Maitland et al., 2012; Makdisi et al., 2013; Waite et al., 2015). High self-criticism and low self-compassion could contribute to the maintenance of distress, leading people to remain in contact with mental health services (Waite et al., 2015). In a recent quantitative study, Scheunemann and colleagues (2018) investigated the role of self-compassion in the distress associated with psychotic-like experiences. They found that self-compassion was associated with less distress related to psychosis experiences (Scheunemann, Schlier, Ascone & Lincoln, 2018). Negative self-compassion (specifically overidentification and isolation), on the other hand, more strongly related to distress associated with voices and delusions than the frequency of symptoms. Negative experiences of psychosis in negative contexts may reinforce and lead to the maintenance of a negative sense of self and self-criticism. If this is also combined with a lack of self-compassion, then psychosis experiences will be maintained (Waite et al., 2015). In order to move forward, people may perceive psychosis as part of their life experiences, by engaging in compassionate self-acceptance, with the awareness that psychosis does not reflect their sense of who they are (Waite et al., 2015).

2.6.3 Lack of control

Lack of control was a narrative common to all the qualitative studies reviewed. Participants frequently recounted the notion of an external locus of control and loss of personal control (Chin, Hayward & Drinnan, 2009; Strand, Olin & Tidefors, 2015; Tully, Wells & Morrison, 2017). For example, Chin and colleagues (2009) investigated how voice hearers related to their voices and their relational understanding of their voices. One of the themes that emerged from their data was about the conflict between the hearer and their voices. Voices were perceived as an overwhelming 'other' that had control over people's lives.

Tully and colleagues (2017) conducted in-depth interviews with 15 service users in order to understand how people respond to their experiences of psychosis. They identified different levels of participants' perceived ability to control their experiences. The lowest level was when people felt defeated and not in control. Participants described losing their ego, losing control of their bodies and being controlled externally. Next, Tully and colleagues (2017) described that people attempted to avoid, escape or control their experiences. Followed by, not being in control and looking for rescue, hoping external help can assist in improving the situation. In the last level, people described reaching a state of acceptance about what cannot be controlled. Participants related their greater sense of control to a reduction in their distress, as well as in their ability to go about their everyday life (Tully et al., 2017). Chin and colleagues (2009) on the other hand, investigated people's perceptions of any 'relationships' they might have with their voices, to do so, they recruited 10 people from CMHTs and used IPA. They found that people spoke of their voices as overwhelming, describing them as an 'other' that control every aspect of their life. Contrastingly, other participants described that they did not always remain powerless and resisted their voices to some extent. How people perceived their psychosis experiences and determined the extent of the control they had over them is important to how they appraise their experiences.

Control was also important to non-clinical groups and was highlighted as an important difference between clinical and non-clinical groups. Boumans and colleagues' (2016, p.4) non-clinical groups felt strongly about 'doing it your own way' and managing their experiences independently from mental health services. Beyond having control over their experiences of psychosis, it was also key to have control about how they chose to live their lives. Boumans and colleagues (2016) argued that for their participants, developing a sense of agency was more important than trying to eliminate psychotic-like experiences. Comparative qualitative research studies thus posit that that increased control is key to reducing people's need for care.

2.6.4 Isolation

People who were asked about their experiential accounts of psychosis frequently mentioned feeling isolated. Makdisi and colleagues' (2013) participants found that being alone aggravated their distress and increased their experience of psychosis. Thus, people's social context is important for their wellbeing. Isolation can be the result of people's social networks not being responsive to, or understanding of their experiences, or it may be a starting point or a trigger for their experiences (Strand et al., 2015). Heriot-Maitland and colleagues (2012) also suggested that isolation may trigger the psychosis experiences. Interestingly, both their clinical and non-clinical groups equally reported isolation. They proposed that this may be because isolation encourages retrospection, and therefore lead people to uncover previously hidden emotional and existential uncertainties thus triggering the experience itself (Heriot-Maitland et al., 2012). In contrast, another study found that a number of participants reported choosing to isolate themselves as a result of fear or mistrust caused by psychosis experiences (Makdisi et al., 2013).

Other people misunderstanding what the person was going through also made it difficult for people to maintain their social relationships. It functioned as a signal of their normative transgression, and heightened their feelings of isolation (Stopa et al., 2013). Ruminating beliefs the person engages in can also be exacerbated when feeling isolate, thereby possibly increasing and maintaining the distress they associate with their experiences (Tully et al., 2017). In studies specifically focusing on voice hearers, some people mentioned developing intimacy with their voices to compensate for a lack of social relationships (Chin et al., 2009). For instance, Boumans and colleagues' (2016) participants perceived their voices to be adaptive and a 'safe heaven to turn to' (p.8), helping people avoid feeling alone and isolated. Overall, isolation can be a trigger or a consequence of people's psychosis experiences. If isolation precedes psychosis experiences, it is likely that the person would have to make meaning of their experiences alone.

2.6.5 Summary of experiential accounts of psychosis experiences and relation to quantitative research

Focusing on the phenomenological and experiential elements of people's experiences is one way through which more in-depth understanding of individual experiences and appraisals of psychosis experiences can be generated. Previous qualitative work has investigated some aspects of psychosis experiences. The qualitative studies identified from the literature focused on similar aspects of people's experiences of psychosis, these provide a baseline for understanding the nuance in people's experiences; (1) searching for understanding, (2) perception of the self, (3) lack of control, (4) isolation. All of these components are aligned with the quantitative literature focusing on people's appraisals and distress related to psychosis experiences (Brett et al., 2007, 2014).

Searching for understanding was related to people's attempts to understand the origin and the nature of psychosis experiences. Similar to Brett and colleagues (2007) findings, the clinical groups in the qualitative studies reported less social understanding relative to non-clinical groups. Prior knowledge of psychosis experiences eased the meaning making process (Heriot-Maitland et al., 2012). This facilitated people's development of multiple beliefs including normalising understandings of psychosis that have also been identified in the quantitative literature (Brett et al., 2014; Lovatt et al., 2010). People were more distressed about their experiences when they had no prior knowledge of psychosis and they only could hold one negative belief about them compared to the multiple beliefs held by the non-clinical group (Heriot-Maitland et al., 2012). Quantitative inquiries also suggest that people's understandings of their experiences were not associated with the content of their experiences, but the beliefs people hold about them (Chadwick & Birchwood, 1994, Birchwood & Chadwick, 1997). In people's qualitative accounts of their experiences, their social context was key to determining whether experiences of psychosis are distressing or not (Holt & Tickle, 2015). If people felt unsupported in their attempts to understand and accept their experiences, they were more distressed by them. How others reacted and whether they facilitated the person's understanding was key to how the experiences were incorporated into their everyday lives. Earlier quantitative research also identified social support as a factor differentiating between

clinical and non-clinical groups (Brett et al., 2007). Qualitative studies however, provided multiple ways people make meaning of their experiences (Holt & Tickle, 2015), which expands quantitative findings.

Participants of the qualitative studies also talked about the role of psychosis on how they perceive the self. Suggesting that if the person was highly self-critical, their psychosis experiences would be maintained (Waite et al., 2015). Thus, self-acceptance and self-compassion were described as key to recovery (Waite et al., 2015). It is important to acknowledge that Waite and colleagues (2015) set out to investigate these factors specifically. Consequently, it is possible that there may be other under-researched factors involved in reducing distress related to the insecurities of the self. Cognitive models of psychosis postulate that distorted beliefs about the self, others and the world are likely to contribute to the maintenance of psychotic beliefs (Garety et al., 2001). Brett and colleagues (2007) suggested that one implication of appraisals related to psychosis experiences is its impact on people's self-understanding, however, this association did not reach significance in their study and was not mentioned again. This is a good example of the nuance qualitative research can provide in understanding the complexity of people's experiences.

Lack of control was identified in all the studies reviewed. Participants described being controlled by their experiences, whereby their locus of control was external to them. Once more, this expands on quantitative research that also found that people perceived their experiences as being uncontrollable (Garety et al., 2007; Morrison & Peterson, 2003). High levels of distress related to psychosis experiences have been theoretically related to worries that experiences are uncontrollable (Freeman & Garety, 1999; Freeman et al., 2002). In Brett and colleagues' (2007) research, clinical groups had lower perceived control than non-clinical groups.

Further, in line with the qualitative findings (Heriot-Maitland et al., 2012), higher levels of distress were identified when people were aware that their experiences were pathologised by others in quantitative studies (Brett et al., 2014; Lovatt et al., 2010). Moreover, in the quantitative literature, negative social context and believing external influences as the cause of psychosis made it more difficult for people to

develop a sense of agency (Brett et al., 2007; 2014). These difficulties contributed to the maintenance of people's psychosis experiences and the distress they attached to them.

Study findings on isolation varied as people's accounts were heterogeneous; some people talked about isolation as a trigger for psychosis experiences (see Heriot-Maitland et al., 2012; Strand et al., 2015), others as a vulnerability factor (see Makdisi et al., 2013), or as the result of people's psychosis experience (see Tully et al., 2017). For people who experienced the latter, isolation may result from people reducing their social contact out of fear or a sense of unease it causes. Equally, social groups may move away from the person as a result of not understanding what the person is going through. In their cognitive model of psychosis, Garety and colleagues (2001) proposed isolation as a factor increasing distress, a contextual factor that maintains the appraisal of anomalous experiences in reducing the person's ability to find alternatives.

These qualitative studies evidence the variety of perceptions and variations in the understandings of psychosis people develop. However, none of the studies focused specifically on exploring and identifying people's appraisals of their psychosis experiences, thus some key factors may have been missed. Brett and colleagues (2007, 2009 and 2015) used self-report measures to investigate appraisals, thus, participants did not have the opportunity to articulate their appraisals of their psychosis experiences in their own words. The second study of this project (outlined in Chapters 6 and 7) begins to address this gap in the literature. It is argued that developing qualitative accounts of people's appraisals of their psychosis experiences provides a worthwhile and nuanced understanding of people's experiences and the beliefs that contribute to the maintenance of distress related to psychosis, as well as the maintenance of contact with mental health services. Experiential accounts extend and complement extant quantitative research, providing a well-rounded understanding of a complex issue.

2.7 Chapter Summary

Recent research on psychosis focuses on people's experiences as being on a continuum. Indeed, a number of studies have found psychotic-like experiences in the general population (van Os et al., 2009). One of the factors that differentiates clinical

and non-clinical groups is that clinical groups have more negative appraisals about their psychosis experiences and are more distressed by them (Brett et al., 2009; Lovatt et al., 2010). Peters and colleagues (2016) established that the non-clinical groups had virtually no negative symptoms of psychosis. Further, negative symptoms are not sufficient for a psychosis spectrum disorder diagnosis. Therefore, as most research investigating appraisals and distress related to psychosis experiences have a comparative focus (clinical and non-clinical groups), the focus is overwhelmingly on positive symptoms (Brett et al., 2014; Hill et al., 2012), and negative and depressive symptoms are often neglected. This project therefore focuses on a clinical group alone in order to investigate vulnerability factors contributing to the maintenance of distress related to psychosis experiences.

The cognitive models of psychosis (Fowler, 2000; Garety et al., 2001, 2007; Morrison, 2001) posit that people's appraisals of their experiences are important to whether people are distressed by their experiences (Bentall, 2003; Morrison, 2003). Specifically, clinical groups perceived their experiences as having external causes (Brett et al., 2007; Garety et al., 2001; Lovatt et al., 2010) and were experienced as more uncontrollable (Brett et al., 2007). These concepts were also identified in the qualitative research, which provided more depth and nuance. For instance, multiple ways people make meaning of their experiences (Chin et al., 2009) were identified. This was also the case for the presence of pathologising explanations on people's experiences (Heriot-Maitland et al., 2012; Holt & Tickle, 2015), nuances in change in people's self (Waite et al., 2015), lack of control (Stopa et al., 2013; Tully et al., 2007) and isolation as a vulnerability factor or a consequence of psychosis (Strand et al., 2015) as recurrent concepts. None of these studies had as their main aim to determine the appraisals people hold about their psychosis experiences, they may therefore not have explored all appraisals in depth. Therefore, an in depth qualitative investigation is needed to gain a nuanced understanding of people's appraisals leading to distress.

Garety and colleagues (2001, 2007) propose in their cognitive model that the beliefs people hold about their thought processes and internal experiences as well as the beliefs they hold about themselves, others and the world determine the kind of appraisals they will make of their psychosis experiences. People's appraisals and their responses to psychosis experiences and factors related to social context predict distress

(Brett et al., 2014). Past interpersonal relationships and traumas are likely to affect people's beliefs about themselves, others and the world, and have been linked to the development and maintenance of psychotic-like (Fisher, Appiah-Kusi & Grant, 2012) and psychosis experiences (Macbeth et al., 2014; Varese et al., 2012) and contribute to people's appraisals. Attachment theory is a developmental theory of distress regulation and a key framework for understanding the development and maintenance of psychosis (Mallinckrodt, 2000). Some research found links between attachment dimensions and distress related to voices (Berry, Wearden, Barrowclough, Oakland & Bradley, 2012; Pilton et al., 2016). However, the relationship between attachment dimensions and distress related to positive and negative psychosis experiences, and depressive symptoms in psychosis is unclear. Attachment theory will be discussed in detail in the next chapter. Emotion regulation and metacognition will also be presented as their development is dependent on attachment dimensions, thus, they are explored as potential mediators in the relationship between insecure attachment dimensions and distress related to psychosis experiences.

Chapter 3. Attachment Theory as a Framework Towards Understanding Distress Related to Psychosis Experiences and Potential Mediators of This Relationship

3.1 The Development of Attachment Theory

In the time since its inception, attachment theory has become “the most powerful contemporary account of social and emotional development available to science” (Steele, 2002, p.518 in Danquah & Berry, p.3). Attachment theory was first described by John Bowlby (1969, 1973, 1980) and originally aimed to explain the infant-caregiver relationship by exploring how human beings make strong affectional bonds. As well as accounting for the emotional distress and personality disturbances that separation from a significant other may cause (Bowlby, 1977), the theory highlights the evolutionary benefits of forming a consistent and stabilising bond in order to establish a ‘secure base’ from which infants can explore their environment (Bowlby, 1977, 1980). In childhood, attachment behaviours are triggered in certain conditions by environmental threats, fear, illness, separation and fatigue and they are defined as any type of behaviour that results in the individual regaining or retaining contact with their attachment figure (Bowlby, 1973, 1982).

Early life experiences underpin the development and internalisation of representational models of the self, others and the world, thus creating a template for interpersonal functioning throughout the life cycle (Bowlby, 1969). As a result of their interactions with their attachment figure in infancy and childhood, individuals develop mental representations about the self in relation to significant others and expectations about how others behave in social relationships (Bowlby, 1969). These internal working models (IWMs) are therefore mental representations of the quality of an individual’s attachment. They guide attention, interpretation, memory and predictions about future interpersonal interactions (Cassidy & Shaver, 1999). Working models are hypothesised to involve cognitive elements reflecting beliefs about whether the individuals themselves are worthy of attention and whether other people are reliable (Berry et al., 2014). Furthermore, they represent emotions that are related to interpersonal experiences, for examples, happiness, fear and anger (Pietromonaco & Barrett, 2000).

Bowlby's understanding of attachment was operationalised by Mary Ainsworth, Bell and Stayton (1971) with the 'strange situation'. In their experiment, a child is put in a situation of discomfort within controlled conditions; the caregiver-infant dyads are systematically separated, then reunited. The quality of childhood attachment is grounded in the degree to which the infant relies on the attachment figure as a source of security (Ainsworth, Blehar, Waters & Wall, 1978), which is determined largely by the caregiver's response to the child, their availability, sensitivity and responsiveness. From this experiment, Ainsworth (1978) initially identified three major patterns of response. In their original sample, 66% of the children were classified as securely attached. Secure attachment was identified in children who actively sought their caregiver and were easily soothed upon their return. Secure children often had a caregiver who was attentive and responsive to their needs. During and beyond infancy, secure attachment is associated with the development of positive self-image, ability to manage distress, ease in autonomy and ability to form relationships with others (Berry & Danquah, 2014).

The three insecure attachment patterns identified by Ainsworth and colleagues (1978) were avoidant, ambivalent and disorganised. Avoidant children showed few signs of distress upon separation and ignored their mother on reunion. They remained watchful of her and inhibited in their play: this pattern was observed in 20% of children (Ainsworth et al., 1978). Parents of avoidant children tend to be controlling and/or rejecting. These children, therefore, learn to deactivate their attachment systems in order to avoid the pain and disappointment that follows an unsuccessful attempt to bond (Danquah & Berry, 2014). Further, 12% of the sample were identified as having an 'ambivalent attachment', characterised by high distress at separation and inability to sooth upon reunion. This attachment style relates to an unpredictable style of parenting, to which infants respond by escalating their display of distress, potentially as an attempt to make their needs too difficult to ignore. Main and Solomon (1986, 1990) later added disorganised attachment style, children classified as disorganised were described as bizarre, contradictory and at times incomprehensible. These behaviours came to be understood in association with fear relating to explicitly abusive responses from caregivers, maltreatment and abuse. Consequently, the child is in a paradoxical context where the attachment figure is the cause of the fear and distress, as well as the supposed provider of a 'safe haven' (Bowlby, 1979). Van Ijzendoorn

and Kroonenberg (1988) conducted a meta-analysis of over 30 studies that used the strange situation. Their findings confirmed the acceptance of the procedure, and they identified these attachment patterns as reliable and valid. Subsequent research focusing on attachment theory did so by investigating attachment in adulthood (Hazan & Shaver, 1987; Main, Kaplan & Cassidy, 1985).

3.2 Adult Attachment Theory

Attachment in adulthood has been identified as a predictor of interpersonal functioning, self-esteem, regulation of affect, psychological distress and psychopathology (Bartholomew & Horowitz 1991; Platts, Tydon & Mason, 2002). Research on adult attachment is investigated through two related yet distinct paradigms; the narrative and the self-report paradigms (Hazan & Shaver, 1987; Main et al., 1985). Both paradigms argue that working models develop as a result of earlier interpersonal experiences and influence psychosocial functioning in adulthood (Berry, Barrowclough & Wearden, 2007). However, they differ in their understanding of the content and structure of the model leading to varied methods of investigation (Simpson & Rholes, 1998). A key reason for this differentiation is their focus; the social psychological approach investigates romantic love as an attachment process (Hazan & Shaver, 1987), whereas the developmental or psychoanalytic orientation relates attachment differences to the organisation of mental representations of earlier attachment figures (George, Kaplan & Main, 1985; Main, Goldwyn & Hesse, 2003 in Dozier, Stovall-Mcclough & Albus, 2008). It is important to acknowledge these differences as the research carried out within these paradigms should not be construed as interchangeable (Roisman et al., 2007). Roisman and colleagues (2007) established the meta-analytic association between AAI and self-report attachment; the association amounted to $r=.09$ (range $r=.02-.17$) thus a trivial to small empirical overlap, it can be suggested that they measure different domains. Below is a summary of each approach.

The narrative approach was operationalised by the Adult Attachment Interview (AAI; George, Kaplan & Main, 1985). It measures 'attachment states of mind' that are determined in relation to the accuracy with which the individual describes and reflects upon their childhood attachment relationships. Accordingly, the AAI does not focus

on current attachment relationships but relies on the perception of primary caregiver experiences. Therefore, it cannot be used to infer how childhood attachment patterns influence expectations and behaviours in adult attachment relationships (Bartholomew & Shaver, 1998). With the AAI, individuals are classified as secure-autonomous, dismissing or preoccupied. A fourth category, called unresolved, relates to abuse and loss, characterised by confusion and disorganisation in answering the interview questions (Crowell, Fraley & Shaver, 1999).

The second paradigm emerged from Hazan and Shaver's (1987) work; it conceptualises romantic relationships as a function of the same processes that are established within child and caregiver attachments. Self-report measures are used to identify three attachment styles; secure, and insecure (avoidant and anxious ambivalent). Adults with a secure attachment style get close to and can depend on others easily. When others are not responsive, and proximity seeking is not a viable option, 'insecure' or secondary attachment strategies develop as alternative approaches to regulating emotional states. Avoidant attachment style relates to discomfort with closeness and a preference for emotional distance and self-reliance and cases are characterised by a denial or non-recognition of an emotional response and distress (Mikulincer & Shaver, 2007). Anxious attachment style is characterised by a strong desire for closeness and protection, high levels of worry about others' availabilities (Danquah & Berry, 2014; Hazan & Shaver, 1987), exaggeration of negative affect and compulsive threat monitoring (Diamond, Hicks & Otter-Henderson, 2006).

Existing attachment measures either assign people to categories (Hazan & Shaver, 1987; Main et al., 1985) or rate people according to various dimensions (Fraley, Waller & Brennan, 2000). Categorical measures have been criticised for disregarding individual differences within the categories. This can lead to misclassifications if individuals fall in between two categories, therefore limiting potential for change and progress (Crittenden & Landini, 2011; Cummings, 1990; Mikulincer & Shaver, 2007; Wei, Russell, Mallinckrodt & Vogel, 2007). Dimensional approaches are more flexible as attachment styles can vary in degree as opposed to kind (Mikulincer & Shaver, 2010). Consequently, they are argued to be more adequate for explaining adult attachment (Fraley & Spieker, 2003; Hazan & Shaver, 1994). A

dimensional approach to attachment occurs on a spectrum and factor analysis identified two dimensions for measuring attachment (Brennan, Clark & Shaver, 1998); these are attachment anxiety and avoidance (Allen et al., 2001; Crowell, Fraley & Shaver, 1999; Ravitz, Maunder, Hunter, Sthankiya & Lancee, 2010; Stein et al., 2002). People who score low on both dimensions have secure attachment styles (Mikulincer & Shaver, 2007). These dimensions are associated with specific patterns of goal-congruent cognitions and responses in the face of distress, each relating to a different emotion regulation style (Goodall, Rush, Grünwald, Darling & Tiliopoulos, 2015; Mikulincer & Shaver, 2007; see section 2.9 for more on emotion regulation). Attachment theory is key to understanding emotional life and how people form relationships both in childhood and adulthood, however, whether childhood attachment transfers directly to adulthood is debated.

3.3 Attachment Across the Lifespan

Bowlby argued that the quality of the relationship a child has with their caregiver influences the way the child will relate to others and manage emotional experiences in adulthood (1973). Attachment experiences are thought to be stored by internal working models (IWMs), which are used to conceptualise attachment experiences and shape how future experiences are perceived (Lewis, Feiring & Rosenthal, 2000). Thus, IWMs are said to act as templates for attachment experiences in adulthood. However, Bowlby also acknowledged that if changes occur in someone's quality of life and interactions, then it is likely that their attachment style or level of attachment security could change (Bowlby, 1982; Cozzarelli et al., 2003; Crowell & Treboux, 1995).

Keeping in mind that existing attachment assessment methods used at different stages are not comparable (Bifulco & Thomas, 2013), a growing body does suggest that attachment styles can change a little or drastically, depending on context (Davila, Burge & Hammen, 1997; Pinquart, Feußner & Ahnert, 2013; Waters, Merrick, Treboux, Crowell & Albersheim, 2000; Weinfield, Sroufe & Egeland, 2000), relationships and experiences (Hamilton, 2000; Mikulincer & Shaver, 2007, 2012). It is therefore beneficial in cross-sectional studies to use self-report measures to

investigate attachment at a given present moment instead of relating it to past relationships that may no longer represent the person's attachment style. It is also established in the literature that early adversity such as loss and trauma, will likely lead attachment styles to be, or to become, more insecure, and are strongly linked to psychological difficulties in adulthood (Rutter, 2000; Varese et al., 2012).

3.4 Attachment Styles and Psychopathology

Adverse childhood experiences including neglect and trauma have been associated with greater risk of mental health difficulties (Cuijpers et al., 2011; Green et al., 2010; Read & Bentall, 2012; Varese et al., 2012). A meta-analysis conducted by Varese and colleagues (2012) found that people experiencing psychosis were twice as likely to have been exposed to childhood adversity as controls. Childhood adversity includes but is not limited to, mother's ill health, witnessing interparental violence, parental substance abuse, bullying, childhood physical or sexual abuse, poverty (Bebbington et al., 2004; Read & Bentall, 2012). Disruptions to care not only influence the way people relate to others in adulthood, they also change the neuroendocrine stress regulation functions of the brain (Barker, Gumley, Schwannauer & Lawrie, 2015). Moreover, experiences of childhood adversity are all likely to threaten the security of the attachment bond (Bowlby, 1973).

Attachment theory provides a framework for conceptualising the role of social cognition, interpersonal experiences and regulation of affect in the development of both interpersonal functioning and psychological distress (Barker, Gumley, Schwannauer & Lawrie, 2015; Mallinckrodt, 2000). Bowlby himself suggested a relationship between attachment and mental health difficulties (see *Personality and Mental Illness*, 1942). Goodwin (2003) proposed that attachment theory, and therefore relationships and their difficulties, can influence mental health in three distinct yet interrelated ways. First, the rupture of a bond with a significant other may cause significant long-term distress. Second, disrupted relationships may lead to the internalisation of unhelpful internal working models; this can hinder a person's ability to form protective relationships, in turn leaving the person vulnerable to distress. Third, attachment states of mind can have an effect on how current relationships are

perceived and interpreted, making them more vulnerable to break down in the face of adversity (Holmes, 1993 in Goodwin, 2003). Through similar mechanisms, it can be suggested that secure attachment in infancy may act as a buffer and protect against the development of mental health difficulties (Mikulincer & Shaver, 2012; Longden, Madill & Westerman, 2012).

Although insecure attachment may be perceived as an adaptive response to unpredictable and rejecting environments in childhood, it has been related to psychopathology in adulthood (Dozier, Stovall-McClough & Albus, 2008; Mickelson et al., 1997). Bakermans-Kranenburg and van Ijzendoorn (2009) conducted a large-scale review looking at studies using the AAI and found an over-representation of insecure attachments in clinical groups. Insecure attachment can, therefore, be understood as a vulnerability factor to mental health difficulties in general (Mikulincer & Shaver, 2012). However, differences in diagnostic classifications, co-morbidities and the use of varied attachment measures prevent direct comparison of studies (Ma, 2006). Further, it is crucial to consider the potential relationship between attachment and the onset of a disorder as dynamic and potentially open to multiple interacting influences, specifically considering how the onset of the disorder may in itself influence attachment patterns (Mikulincer & Shaver, 2012). Therefore, research moved from general psychopathology to investigating attachment within specific disorders (Read & Gumley, 2008). These include depression (Cantazaro & Wei, 2010; Fowler et al., 2013), anxiety (Bosmans, Braet & Van Vlierberghe, 2010), obsessive compulsive disorder (Carpenter & Chung, 2011) and post-traumatic stress disorder (Ortigo et al., 2013). Insecure attachment has also been associated with severe mental health difficulties such as bipolar disorder (Morriss, van der Gucht, Lancaster, & Bentall, 2009) and of particular relevance to this thesis, psychosis (Gumley et al., 2014; Korver-Nierberg et al., 2014).

3.5 Attachment as a Framework for Understanding Psychosis

Interpersonal adversity, both past and current plays an important role in psychotic-like and psychosis experiences (Berry et al., 2006; Berry et al., 2007b). Research has been focusing on increasing understanding of the mechanisms through which interpersonal trauma exacerbates the risk of developing psychosis (Fisher,

Appiah-Kusi & Grant, 2012; Read & Bentall, 2012). Historically, the focus on factors relating to the development and maintenance of psychosis had predominantly been on biological factors, thus psychological theories such as attachment theory were given little attention (Read & Gumley, 2008). Attachment theory provides a strong theoretical framework to elucidate the impact of distressing or traumatic early interpersonal relationships (Garety, Kuipers, Fowler, Freeman & Bebbington, 2001; Morrison et al., 2003; Freeman & Garety, 2003), as it integrates cognitive, emotional and neuroscientific data on psychosis (Berry et al., 2007b). Insecure attachment styles are therefore hypothesised to increase vulnerability to the development of psychosis and can be associated with poor outcomes with regard to symptom severity and course of illness (Korver-Nieberg, Berry, Meijer, de Haan, & Ponizovsky, 2015). Indeed, research studies revealed that people experiencing psychosis have higher levels of insecure attachment when compared to control groups (Couture, Lecomte & Leclerc, 2007; Dozier, 1990, 1991, 2008; Dozier & Lee, 1995; Ponizovsky, Nechamkin & Rosca, 2007).

3.5.1 Attachment and psychotic-like experiences in non-clinical samples

Within the continuum perspective of psychosis experiences, analogue studies have investigated the relationship between attachment patterns and psychotic-like experiences in non-clinical populations. These studies found associations between insecure attachment, specifically avoidant attachment styles and schizotypal traits (Berry et al., 2006, 2007a; Pickering, Simpson & Bentall, 2008; Sheinbaum, Bedoya, Ros-Morente, Kwapil & Barrantes-Vidal, 2013; Macbeth et al., 2008; Tiliopoulos & Goodall, 2009; Wilson & Costanzo, 1996), however, this relationship was not consistent. For instance, Tiliopoulos and Goodall (2006) found that anxious attachment was related to both positive ($r=.32$; medium effect) and negative schizotypy ($r=.25$; small effect), whilst avoidant attachment was related to negative schizotypy ($r=.37$; medium effect) alone. Pickering and colleagues (2008) investigated the association between attachment and individual psychotic-like experiences; paranoia and hallucinations. They found a relationship only between insecure attachment (avoidance, $r=.24$; small effect; anxiety, $r=.48$; medium effect) and proneness to paranoia. Berry and colleagues (2006) found that attachment anxiety was

most strongly associated with the paranoia scales ($r=.50$; large effect) and avoidance was most strongly associated with social anhedonia ($r=.44$; medium effect).

Differences in the assessment instruments employed to measure both attachment and psychotic-like experiences may account for the discrepancies amongst the studies. Moreover, in all three studies detailed here, the samples were constituted of self-selected students. It is possible that people who self-select for such studies may be more prone to psychological difficulties (Freeman et al., 2005). While these studies offer an important starting point, their applicability to clinical samples are limited due to their heterogeneity as well as their debatable applicability to the experiences of psychosis sufferers, particularly with people who have a chronic history of psychosis (Ma, 2006).

3.5.2 Attachment and positive symptoms of psychosis

Systematic reviews (Gumley, Taylor, Schwannauer & MacBeth, 2014; Korver-Nieberg, Berry, Meijer & de Hann, 2014) and a meta-analysis (Carr, Hardy & Fornells-Ambrojo, 2018) of studies looking at attachment and psychosis concluded that attachment avoidance has a small to medium, positive association with positive symptoms. The relationship between anxious attachment styles and symptoms severity is more equivocal in clinical populations (Korver-Nieberg et al., 2014). Thus, the meta-analysis (Carr et al., 2018) findings are considered; for clinical samples positive symptom severity was associated to both anxiety ($k=11$, $r=.23$. CI [.14-.33]) and avoidance ($k=11$, $r=.15$. CI [.04-.25]) with a small effect size.

Indeed a number of studies found that both attachment avoidance and anxiety related to positive symptom frequency (Korver-Nieberg et al., 2013; Korver-Nieberg, Berry, Meijer, de Hann & Ponizovsky, 2015; Ringer, Buchanan, Olesek & Lysaker, 2014; Wickham, Sitko & Bentall, 2015) ranging from $r=.20$ -.41 for avoidance and $r=.31$ -.57 for anxiety. However, Berry, Barrowclough & Wearden (2008) found significant positive associations only between avoidant attachment and positive symptoms ($r=.20$; small effect). This association was also replicated in other studies (Berry, Barrowclough & Wearden, 2009; $r=.27$, small effect; Kvrjic et al., 2011;

$r=.18$, small effect). The findings of these key studies highlight significant associations only between avoidant attachment dimensions and positive symptom severity. The discrepancies amongst the studies may be due to a number of factors; as it is pointed out in Carr and colleagues' (2018) meta-analysis ten different psychosis measures and six different attachment measures were used in the clinical research. These measures categorise attachment dimensions into different attachment styles, thus nuances between different styles may be overlooked. Moreover, Carr and colleagues (2018) identified a publication bias suggesting that data may have overestimated the relationship between positive symptoms and attachment style to a small degree. It may be helpful to focus on specific symptoms to further elucidate the relationship.

Some studies focused on the relationship between insecure attachment and specific positive symptoms. An international study with a large sample of patients with psychosis (Korver-Nieberg, Berry, Meijer, de Haan & Ponizovsky, 2015) found that insecure attachment was associated with specific positive symptoms of paranoia (anxiety; $r=.18$, small effect; avoidance; $r=.17$, small effect) and hallucinations (anxiety; $r=.15$, small effect; avoidance; $r=.18$, small effect). In other studies, only attachment avoidance was associated with paranoia (Berry et al., 2006; $r=.39$, medium effect) and hallucinations (Arbuckle, Berry, Taylor & Kennedy, 2012; $r=.63$, large effect). Arbuckle and colleagues (2012) also found associations between attachment avoidance and greater duration, frequency, intensity and conviction of voices. Ponizovsky, Levoy, Schultz & Radomislensky (2011) found that increased severity of delusions was predicted by more preoccupied attachment ($r^2=.06-.08$) and more avoidant attachment ($r^2=.05-.08$). The difference in findings may relate to variations in the measures used, analysis differences and varied sample sizes (Carr et al., 2018). It is also possible that differences between samples, such as variations in the severity of a person's experience of psychosis and the length of time people have been experiencing psychosis can contribute to effect size variations (Korver-Nieberg et al., 2014).

3.5.3 Attachment and negative symptoms of psychosis

Not all studies investigating the relationship between attachment and psychosis focused on negative symptom severity. In a recent meta-analysis, Carr and colleagues

(2018) concluded that neither insecure avoidant ($k=7$, $r=.11$, $p=.13$) nor anxiety ($k=7$, $r=.11$, $p=.06$) dimensions were significantly associated with negative symptom severity, although the small number of studies ($k=7$; Berry et al., 2008; Boyette, Norver-Nieberg, Meijer & de Haan, 2014; Kvrđic et al., 2011; Ponizovsky, Arbitman, Baumgarten-Katz & Grinshpoon, 2014; Quijada et al., 2012; Rieben, Huguelet, Lopes, Mohr & Brandt, 2014; Ringer et al., 2014) may be affecting this. The meta-analysis findings contradict the findings of previous systematic reviews (Gumley et al., 2014; Korver-Nieberg et al., 2014). When Carr and colleagues (2018) removed the outliers from their study, the relationship between negative symptom severity and anxious attachment became significant when Quijada and colleagues' (2012) study was removed (adjusted $r=.13$, 95% CI=.17-.33, $p<.001$, $I^2=37.04$). Similarly, when they removed Ponizovsky and colleagues' (2014) case the relationship between negative symptoms and avoidant attachment styles became significant (adjusted $r=.19$, 95% CI=.10-.27, $p<.001$, $I^2=10.64$). Nevertheless, they found no methodological or sampling reasons to take these studies out. It is likely that these papers represent a genuine heterogeneity in the sample, which is in line with the continuum approach to psychosis (van Os & Kapur, 2009; Ryan, 2013 in Carr et al., 2018).

3.5.4 Attachment and depressive symptoms in psychosis

An even more limited number of studies investigated insecure attachment patterns and affective symptoms. Ponizovsky, Vitenberg, Baumgarten-Katz & Grinshpoon (2013) found a significant relationship between fearful-avoidant attachment style is associated with higher levels of depression ($F(3,97)= 10.77$, $p<.001$). Arbuckle and colleagues (2012) also found that higher attachment avoidance was related to greater depression ($r=.41$; medium effect). However, in their study, Berry and colleagues (2009) found associations between depression and both attachment anxiety ($r=.43$, medium effect) and avoidance ($r=.27$, small effect). Kvrđic and colleagues (2011) also found significant associations between depression and both anxious ($r=.27-.41$; small to medium effect) and avoidant attachment ($r=.19-.29$; small effect). Although there are very few studies investigating insecure attachment and depression in psychosis, existing studies highlight that both attachment anxiety and avoidance associate with depressive symptoms with a small to medium effect size.

3.5.5 Attachment and engagement with care

Beyond their association with symptoms of psychosis, insecure attachment dimensions were also associated with some difficulties related to engagement with services, therapeutic relationships and recovery. Dozier (1990) found that attachment avoidance was related to a reduced likelihood to seek help as well as poor use of treatment. Contrastingly, attachment security was related to better engagement with services (Macbeth et al., 2010) and better compliance with treatment (Dozier et al., 1990). Insecure attachment has also been related to more interpersonal problems (Gumley et al., 2014; Tait, Birchwood & Trower, 2004). Ponizovsky, Nechamkin and Rosca (2007) found that people with insecure attachment dimensions were hospitalised for longer compared to securely attached individuals. Avoidant attachment was also related to poor recovery from psychosis (Thompson, McGorry & Harrigan, 2003) where people predominantly employed ‘sealing over’ recovery styles, as well as negative self-evaluation (Tait, Birchwood, & Trower, 2004). In a study with keyworkers, Arbuckle and colleagues (2012) found that people with more prevalent auditory hallucinations are perceived by their key workers as having more avoidant attachment patterns. People who had greater delusional experiences reported higher avoidance towards their mental health team. In sum, insecure attachment was related to difficulties in dealing with psychosis experiences and the involvement of services as well as the maintenance of psychosis through non-compliance with treatment and the use of unhelpful recovery styles.

Overall, insecure attachment patterns were related to a reduced engagement with services and difficulties in recovery from psychosis. Further, both insecure attachment dimensions significantly associate to positive symptoms of psychosis in clinical samples with a small effect size (Carr et al., 2018). However, the associations between insecure attachment dimensions and negative symptoms are not significant (Carr et al., 2018). Depressive symptoms on the other hand, were not investigated in the meta-analysis conducted by Carr and colleagues (2018), however, existing studies found significant small to medium associations with both attachment avoidance and anxiety. Although clear conclusions are drawn regarding the nature and size of the relationships in the meta-analysis conducted by Carr and colleagues (2018), further research is required in order to clarify these relationships and understand the reason

for the inconsistencies amongst individual studies. The discrepancies observed in individual studies may be the result of variances in the operationalization of attachment and psychosis assessments or variances in the samples recruited. Another possible explanation for the variations in the individual studies is that attachment styles are not directly predictive of psychosis experiences and may involve a more complex, mediated explanation (Read & Gumley, 2008). Indeed, it would be difficult to conceive of a single pathway model. A third possible explanation would be that attachment theory contributes to the development and maintenance of distress associated with psychosis experiences and not to the frequency of symptoms (Lovatt et al., 2010).

3.5.6 Attachment as a framework for explaining distress related to psychosis experiences

Attachment is a theory of distress regulation (Bowlby, 1980) and early interpersonal experiences influence later interpersonal functioning and methods of regulating distress through internal working models or cognitive representations about the self, the world and others (Penn, Corrigan, Bentall, Racenstein & Newman, 1997). Bentall and Fernyhough (2008) propose that insecure attachment may shape negative schemas regarding the self and others, conferring vulnerability to psychosis-related symptoms through the additional vulnerability brought on by cognitive difficulties. Insecurely attached people are therefore more likely to develop a negative perception of themselves and find it difficult to manage distress. Further, insecure attachment dimensions being associated with distress related to psychosis experiences rather than symptom severity may elucidate discrepancies in the findings of existing research. Indeed, it remains unclear whether insecure attachment dimensions predispose to the development of anomalous experiences, or to the pathogenic appraisals that transform them into psychotic symptoms (Lovatt et al., 2010). The majority of existing studies investigate the links between insecure attachment and the severity of psychosis experiences. However, cognitive models of psychosis (Garety et al., 2001, 2007; Morrison, 2001) postulate that adverse early experiences create an enduring cognitive vulnerability via negative schematic models, which then lead to the external attribution of anomalous experience. Therefore, insecure attachment dimensions may indeed relate to negative appraisals of psychosis experiences and distress related to psychosis experiences.

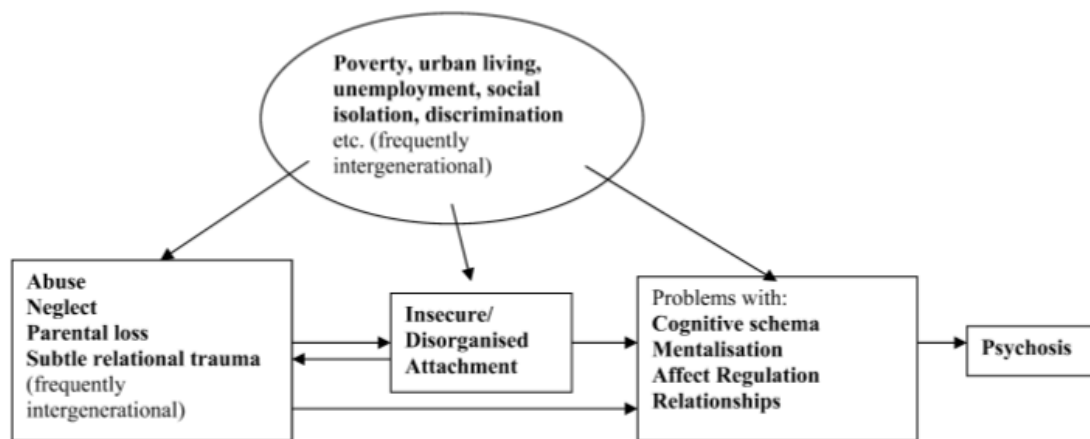
This has been indirectly investigated in some studies examining specific aspects of the association between attachment and psychosis. Previous research established that a key difference between help-seeking groups and non-help-seeking groups relates to how they appraise and respond to their experiences, and these predict whether their experiences relate to distress (Brett et al., 2007; Brett et al., 2014). Peters and colleagues (2016) conducted a large-scale study of the psychosocial characteristics in individuals with and without a need for care. They identified that the clinical sample was more anxious and depressed, reported lower self-esteem, and scored higher in negative schemas about the self and others. These characteristics overlap with characteristics associated with insecure attachment. On the other hand, non-help seeking samples were more likely to perceive themselves as having positive attributes, and scored higher in positive schemas about the self and others; they also reported high psychological wellbeing. These are parallel to the characteristics found in secure attachment. These findings suggest that insecure attachment dimensions are likely to relate to negative appraisals and distress related to psychosis experiences while secure attachment is likely to act as a protective factor against the development of distress.

Only two research studies directly focused on the relationship between attachment theory and distress related to psychosis experiences, and they both solely focused on voice hearing. Berry and colleagues (2012) found that distress related to voices was associated with attachment anxiety but not attachment avoidance. The authors explain that this is surprising considering the established relationship between attachment avoidance and psychosis (Carr et al., 2018; Gumley et al., 2014). However, they suggest that it may relate to people with avoidant attachment patterns under-reporting distress related to their symptoms (Berry et al., 2012). The other study investigating distress related to voice hearing was conducted by Pilton and colleagues (2016). They investigated whether beliefs about voices mediated the relationship between insecure attachment and voice-related distress in a clinical sample. They found that anxious attachment mediated the relationship between childhood trauma (sexual abuse, emotional abuse, physical neglect) and voice related distress. Similarly to Berry and colleagues' (2012) findings, attachment avoidance was not significantly associated with distress related to voices. This may relate to a tendency of people with avoidant attachment styles to suppress or distance themselves from negative affect (Pilton et al., 2016).

Further research is needed to determine whether insecure attachment dimensions do relate to distress related to psychosis experiences beyond voice hearing experiences. Distress related to positive, negative and depressive symptoms in psychosis need to be investigated. Moreover, a better understanding of people's appraisals and psychological factors contributing to distress related to psychosis can provide insight for more appropriate treatments to reduce a person's need for care. Psychological vulnerability factors may mediate the relationship between insecure attachment and distress related to psychosis experiences as not every individual who has insecure attachment patterns develops psychosis and vice versa (Read & Gumley, 2008). Similarly, not all people experiencing psychosis are insecurely attached as studies reported that between thirteen and twenty-five percent of people experiencing psychosis exhibit secure and autonomous attachment patterns (Couture, Lecomte & Leclerc, 2007; Dodwell, Thomas & Iqbal, 2012; Ponizovsky et al., 2007, 2013).

3.6 Attachment and Psychosis; a Mediated Relationship?

Read and Gumley (2008) proposed a theoretical model capturing attachment style as a responsive adaptation to early environment which then facilitates or hinders the development of other key factors. If attachment is insecure, it can lead to problems with the development of a number of psychological mechanisms. These then present as vulnerability factors to the development of psychosis. Read and Gumley (2008) focused on three broad areas; cognitive processes, emotion regulation and interpersonal relationships, they suggested that these domains cannot be separated (See Figure 3).



Note: The two-directional arrows suggest that insecure/disorganized attachment resulting from childhood adversity can increase the probability of further abuse and neglect in later life stages.

Figure 3. *Read and Gumley's (2008) model of the role attachment may play in the relationship between childhood adversity and psychosis*

They concluded that further empirical research is necessary to explore the full potential of attachment theory in the context of psychosis, and to better understand the factors that mediate this relationship. The mediated model suggested by Read and Gumley (2008) is a useful, albeit preliminary, conceptual framework supporting the theory that insecure attachment alone is not sufficient to predict psychosis. Their model is presented with the development of psychosis experiences in mind.

The current project investigates the role psychological vulnerability factors play in the maintenance of distress related to psychosis experiences. Therefore, after establishing the relationship between insecure attachment and distress related to psychosis, two vulnerability factors that have been independently associated to both insecure attachment dimensions and distress related to psychosis are investigated as mediators. These are emotion regulation (Osborne, Willroth, DeVlyder, Mittal & Hilimire, 2017; Owens, Haddock & Berry, 2013) and metacognition (Brett et al., 2009; Macbeth et al., 2011; Morrison, 2001). The next section will elaborate on both of these factors and explore their association to attachment theory, distress related to psychosis experiences and each other.

3.7 Emotion Regulation

3.7.1 Definitions of emotion regulation

Emotion regulation is a multifaceted construct comprising many features (Gratz & Roemer, 2004). Thompson (1994) defined the concept as, “the extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals” (pp.27-28). Emotion regulation can be understood as a goal oriented process involving factors both intrinsic (or intrapersonal, e.g. temperament) and extrinsic (or interpersonal, e.g. environmental and relational) to the individual (Cole, Michel & Teti, 1994; Gross & Jazaieri, 2014). It may also incorporate the changing intensity, and duration of an emotion (Thompson & Calkins, 1996).

Independent of the various forms emotion regulation can take, there are three key factors for adaptive regulation – awareness, goals and strategies (Gratz & Roemer, 2004; Gross & Jazaieri, 2014). Awareness of emotions and the context in which they occur is important for adaptive emotion regulation (Barrett, Gross, Conner, & Benvenuto, 2001). Goals relate to what the person is aiming to achieve by regulating their emotions. This includes increasing or decreasing the magnitude or the intensity of emotions (Gross & Jazaieri, 2014). Finally, using adequate strategies to achieve the goals a person has set are important for adaptive emotion regulation. Arguably then, investigating the factors facilitating adaptive emotion regulation are as important as the strategies used to regulate emotions. It is important to mention that emotions can be adaptive or not, depending on the context, the individual and the emotion (Aldao & Nolen-Hoeksema, 2012). Attachment theory is useful in understanding the development of emotion regulation strategies and identifying the type of strategies that are likely to be dominant for different attachment dimensions.

3.7.2 The development of emotion regulation

The development of effective emotion regulation precedes various key developmental skills acquired in childhood (Thompson, 1991). Specifically, since emotions have the potential to become overwhelming and hinder the development of other processes, adequate regulation and expression of emotions is key for

development (Diamond & Aspinwall, 2003). Emotion regulation develops gradually and it starts within the context of interpersonal relationships (Diamond & Aspinwall, 2003). At first, children rely on their carers to regulate their emotions for them and then, in time they internalise these behaviours and adopt the strategies they observed as their own (Fonagy, Gergely, Jurist & Targer, 2002; Sroufe, 2005). This is strongly supported by attachment theory (Bowlby, 1969); internal working models developed in childhood act as experience-based predictive guides, signifying the representations and expectations people have of their relationships and organising the person's memory of an attachment figure and of themselves in times of need (Main, Kaplan and Cassidy, 1985). They shape thoughts, feelings and behaviours about the self and others and are understood to shape the nature of affect regulation throughout life (Pietromonaco, Barrett and Powers, 2006; Bretherton & Munholland, 1999; Malik, Wells & Wittkowski, 2015).

Secure attachment patterns provide the ability to tolerate negative affects temporarily in order to deal with challenging situations (Cassidy, 1994). Securely attached children learn emotion regulation strategies that are most appropriate to cope with experiences of distress in light of their previous positive experiences with caregivers. These processes facilitate the accumulative development of a strong sense of self-efficacy in relation to the individual's ability to regulate their own emotions without external support, as well as generating a resilient approach to emotion regulation (Mikulincer & Shaver, 2012). Therefore, securely attached people do not need to engage in avoidance, suppression or denial of emotions. An important outcome of successful attachment patterns is the acquisition of self-regulation capacities that will positively affect later life. In cases where attachment develops as insecure, the development of emotion regulation is impeded (Fonagy et al., 2002).

Shaver and Mikulincer (2002, 2007) created an integrative model that focuses on the development of attachment patterns and corresponding emotion regulation strategies based on attachment research (Figure 4). The model was further refined by Mikulincer, Shaver & Pereg (2003) and includes three major components. For the first component, threat-related events are monitored and appraised; if there is a threat, the *primary attachment strategy* of seeking proximity to the attachment figure is activated. In adulthood, proximity does not have to be tangible where the person can turn to an

internalised representation of a supportive other (Mikulincer & Shaver, 2007). If there is an available and attentive attachment figure, emotions can be regulated and the distress alleviated. This relates to secure attachment. If such a figure is lacking, the viability of proximity seeking is appraised and monitored. In both cases, *secondary attachment strategies* are developed to cope with the attachment insecurity; these are, hyperactivation and deactivation (Mikulincer & Shaver, 2007). Attachment anxiety has been related to hyperactivation strategies and avoidant attachment with deactivation strategies of the attachment system (Mikulincer & Shaver, 2007).

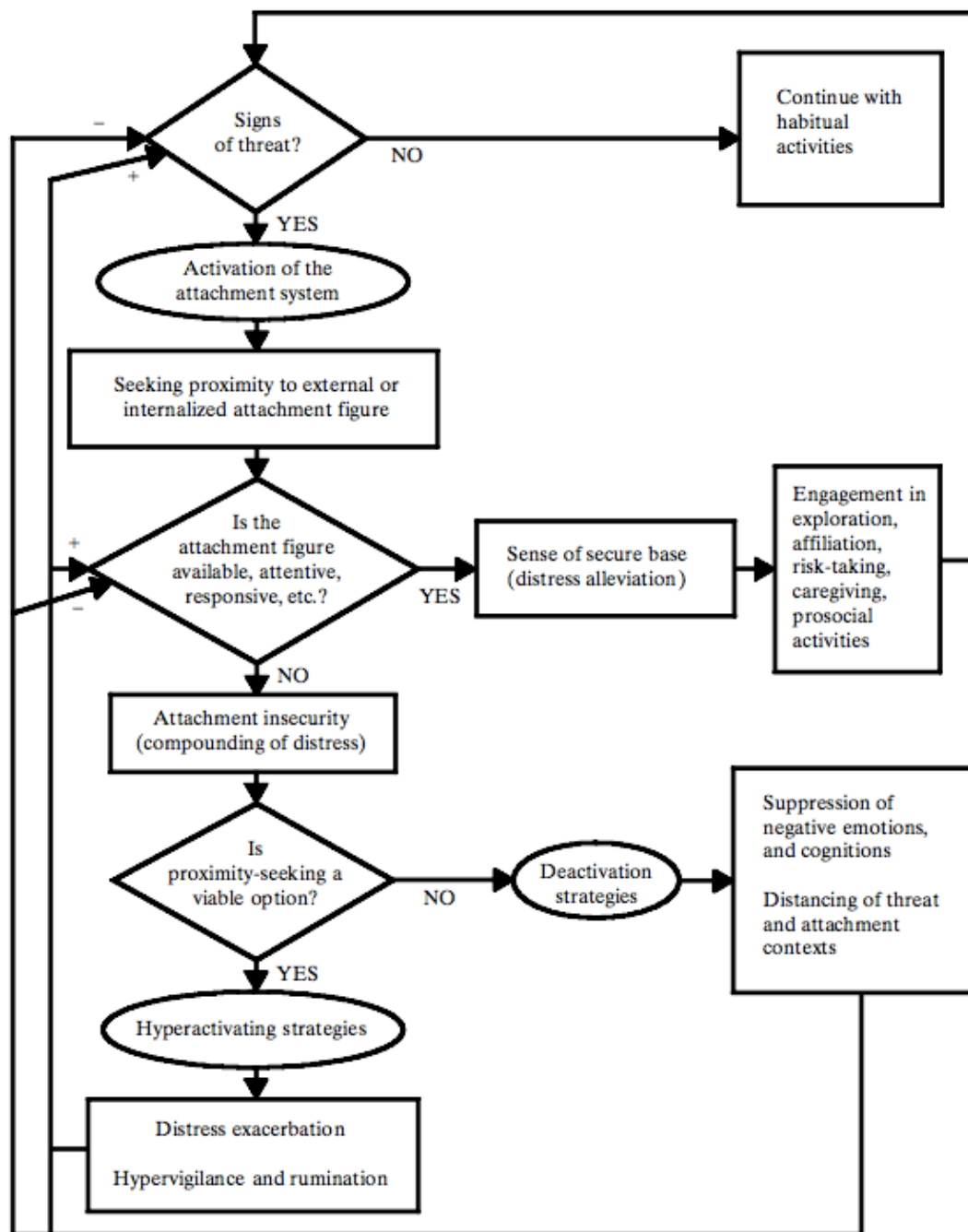


Figure 4. *An adaptation of Shaver and Mikulincer's integrative model of the activation and dynamics of the attachment system (Shaver and Mikulincer, 2007, p.31)*

3.7.2.1 Anxious attachment and hyperactivation

Anxious attachment patterns lead to the perception that it is in an individual's best interest to maintain chronic activation of the attachment system (Collins, Ford, Guichard & Allard, 2006). Undesirable emotions are perceived to be somewhat compatible with goals of obtaining attention and support from others (Mikulincer & Shaver, 2007). This is done through the maintenance and amplification of negative emotions. Portraying the self as helpless and vulnerable may lead to attachment figures being more likely to offer support (Cassidy & Berlin, 1994). People with high levels of attachment anxiety have low levels of self-efficacy in relation to self-regulation (Shaver & Mikulincer, 2007). This hinders their ability to access and implement adaptive emotion regulation strategies. Helplessness is learned through an invasive, inconsistent parenthood approach and is maintained through adulthood (Lyons-Ruth & Spielman, 2004). The person therefore learns to interpret negative events as out of their control. This is fuelled over time through negative internal models of the self that become ingrained, and the self is learned as incapable and powerless (Shaver & Clark, 1994). Hyperactivation is found to strengthen negative feelings about the situation, which leads to increased rumination over attachment patterns and activation of internal working models, even when there are no external threats (Mikulincer et al., 2003).

3.7.2.2 Avoidant attachment and deactivation

On the other hand, unlike attachment anxiety, attachment avoidance has been related to conscious, or unconscious efforts to keep the attachment system deactivated (Shaver & Mikulincer, 2007). This is aimed at minimising the potential emotional consequences of everyday life situations. As well as the potential for distress, frustration may also result from seeking an unavailable attachment figure (Cassidy & Kobak, 1988). Studies have established a relationship between deactivation, where attachment avoidance is associated with an inattention to potentially distressing situations, and a tendency to suppress distress when it arises (Caldwell & Shaver, 2012; Mikulincer & Shaver, 2003). Emotions can be regulated by deactivation, where one's attention is pre-emptively directed away from emotional input, or existing memories and information are suppressed post-emptively to minimise emotional distress (Caldwell & Shaver, 2012). Some studies have found that avoidant attachment is

related to low negative affect as well as impaired emotional clarity and deficiency in labelling emotions both for the self and others (Caldwell & Shaver, 2012; Wearden, Cook & Vaughan-Jones, 2003).

While suppression behaviours are closely associated with avoidant attachment, they are also related to difficulties in using reappraisal effectively (van der Meer, van't Wout & Aleman, 2009). Shaver and Mikulincer (2007) suggested that avoidant individuals partake in appraisal techniques similar to securely attached individuals when coping with stressful situations, whilst other researchers argued that avoidant attachment related to distress-intensifying patterns of appraisal, similar to highly anxious people, when they are confronted with severe and unavoidable traumatic events (Berant, Mikulincer & Florian, 2001; Mikulincer & Florian, 1998). It can be argued that prolonged periods of distress can, in turn, be detrimental to the usual defences used and suppression may succumb under extended distress (Mikulincer et al., 2000, 2004). Despite their differences, both hyperactivation and deactivation strategies are maladaptive (Shaver & Mikulincer, 2002).

People who display high levels of attachment avoidance dimension tend to inhibit threat monitoring and minimize the importance of external support (Gumley et al., 2014). They also favour self-reliance whilst denying emotional involvement (Kobak, Cole, Ferenzgillies, Fleming & Gamble, 1993). The suppression technique associated with avoidance hinders the adaptive use of emotions in decision making. It interferes with memory and requires substantive cognitive effort (Mikulincer et al., 2003). Those people who are high in the attachment anxiety dimension, on the other hand, see vigilance towards emotional threats continuously increase while emotional information is left unregulated by the self in an attempt to attract attention and support from potential attachment figures (Wei, Vogel, Ku & Zakalik, 2005). Anxious attachment dimension is associated with constant rumination, increased levels of negative affect (Shaver & Mikulincer, 2007). Both insecure attachment dimensions and their respective maladaptive emotion regulation strategies can persist across a lifespan and have been associated with the development and maintenance of psychological difficulties (Fonagy et al., 1996; Sarkar & Adshead, 2006).

Owens and colleagues (2013) investigated the associations between attachment dimensions and dimensions of emotion regulation difficulties in a psychosis sample. They explored the value of attachment theory as a framework for understanding the ways in which staff-patient relationships relate to different methods of emotion regulation in people experiencing psychosis. They found that insecure attachment was significantly associated with greater difficulties in regulating emotions. Attachment avoidance was significantly related to increased non-acceptance of emotional responses, lack of emotional awareness and lack of emotional understanding. Attachment anxiety, on the other hand, was significantly associated with difficulties engaging in goal-directed behaviour when upset, impulse control difficulties and limited access to appropriate emotion regulation strategies. Owens and colleagues (2013) found that attachment anxiety predicted emotion regulation over and above the variance contributed by psychosis symptoms and negative emotions. As their primary aim was to determine the details of the staff-patient relationship, their analysis did not put emphasise on the link between emotion regulation and psychosis experiences; they did not investigate how emotion regulation difficulties related to psychosis experiences. Other research has focused on the relationship between emotion regulation difficulties and psychopathology (Aldao, Nolen-Hoeksema & Schweizer, 2010).

3.7.3 Emotion regulation and psychopathology

There is a growing body of evidence to suggest that maladaptive emotion regulation strategies have great value in understanding the development and maintenance of a range of psychopathologies (Aldao & Nolen-Hoeksema, 2012; Kring & Sloan, 2009; Gross & Muñoz, 1995), for example, higher levels of depression, anxiety and somatic symptoms, or disordered personality traits (Shaver & Mikulincer, 2007; Tiliopoulos & Goodall, 2009). Longitudinal research shows that emotion regulation difficulties are not only correlated with mental health problems but also predict them (Berking, Wirtz, Svaldi & Hofmann, 2014). A number of mental health difficulties are due to problematic patterns of emotions. More specifically, emotion dysregulation may either relate to *emotion regulation failures*, such as not engaging with emotion regulation when it would be helpful to or *emotion misregulation*, when the emotion regulation strategy used is inadequate to the situation (Gross, 2013; Gross

& Jazaieri, 2014). The literature mainly focuses on emotion misregulation and therefore specific strategies are predominantly investigated.

Aldao, Nolen-Hoeksema and Schweizerand (2010) conducted a systematic review and meta-analysis. They investigated three widely accepted emotion regulation strategies that act as protective factors against psychopathology: reappraisal, problem solving and acceptance (Aldao et al., 2010). In contrast, suppression, avoidance and rumination are identified as risk factors for mental health difficulties and maladaptive behaviours (Aldao et al., 2010). Rumination was the only strategy to relate to psychopathology with a large effect. Overall, maladaptive strategies were more strongly related to psychopathology than adaptive emotion regulation strategies. Thus, the presence of a maladaptive strategy can be more damaging than the absence of an adaptive strategy (Aldao et al., 2010). One limitation of these results is that only a minority of their effect sizes came from a clinical population and therefore the strength of the effects may vary in clinical samples. Furthermore, they only investigated emotion regulation strategies and did not measure people's awareness of their emotions and their goals (Gross & Jazaieri, 2014). Unhelpful emotion regulation strategies have therefore been identified in psychopathology, including psychosis.

3.7.4 The relevance of studying emotions in psychosis

Increased knowledge of the role of emotion regulation has shifted understanding of some psychopathologies, including psychosis, which was traditionally perceived as 'non-affective' (Henry et al., 2007). It is now accepted that emotions are present both prior to the onset of psychosis and during its course, where emotional disturbances influence the experience of psychosis (Freeman & Garety, 2003). A greater understanding of emotional dysfunction in psychosis could in turn lead to a greater understanding of factors involved in the development and maintenance of psychosis (see Strauss, 1989 and Marwaha et al., 2014). Freeman and Garety (2003) propose that the content of a person's delusions and hallucinations may be direct representations of their emotional states. Birchwood also proposed that "emotional dysfunction is pervasive in non-affective psychosis" (2003, p. 273). Nevertheless, this divide led to only a few studies investigating emotions and emotion regulation in psychosis spectrum disorders.

Furthermore, people diagnosed with non-affective psychosis also experience depression, social anxiety, shame, guilt and hopelessness as a result of their experience and through comorbidity such as PTSD (Birchwood, Iqbal, Chadwick & Trower, 2000; Cosoff & Hafner, 1998; Drayton, Birchwood & Trower, 1998). Depressed mood was identified in 45% of a recently hospitalised sample of people with acute psychosis experiences who were not using anti-psychotics at the time (Leff, Tress & Edwards, 1988). Another important finding that consolidates the role of emotions in psychosis is the presence of emotional signs and difficulties found in the early signs of relapse in psychosis (Tait, McNay, Gumley & O'Grady, 2002) for example, increased fear, anxiety and helplessness and social withdrawal are all emotionally driven (McCandless-Glimcher et al., 1986). Vulnerability towards the development of psychosis can therefore be understood within a context of attachment-influenced emotion regulation systems (Gumley et al., 2014). Within these systems, insecure attachment patterns are related to poor strategies for responding to and regulating distress (Goodall et al., 2015).

3.7.5 Emotion regulation and psychosis

Livingstone, Harper and Gillanders (2009) conducted an important study investigating the emotional experiences and regulation strategies used by people experiencing psychosis and compared them to people with experiences of mood and anxiety disorders as well as to a non-clinical sample. The two clinical groups employed significantly more dysfunctional emotion regulation strategies than the non-clinical group. Similarly, they found clinical groups used internal-dysfunctional strategies (e.g. dwelling on thoughts and feelings) significantly more than non-clinical groups, as well as making less use of internal-functional emotion regulation strategies (e.g. reviewing their thoughts or beliefs). In summary, clinical groups used higher levels of maladaptive emotion regulation strategies and lower levels of adaptive emotion regulation strategies than the non-clinical group. These results are key in highlighting the presence of maladaptive emotion regulation strategies in psychosis. However, they did have a small sample size that may not be representative of the population.

These findings were corroborated by van der Meer and colleagues (2009) who reported similar results in patients diagnosed with schizophrenia. The group with a diagnosis of schizophrenia was much more likely to suppress the emotionally valenced stimulus, even after depression was accounted for. O'Driscoll, Laing and Mason (2014) concluded from their meta-analysis that, people with a diagnosis of schizophrenia showed a greater use of maladaptive emotion dysregulation and less use of adaptive strategies, when compared to non-clinical groups. More specifically, Kimhy and colleagues (2012) also found that people with a diagnosis of schizophrenia reported higher levels of suppression and lower levels of reappraisal when compared to controls. However, these findings are not universal as some studies found no difference between patients and control participants for the use of reappraisal and suppression (Badcock, Paulik & Maybery, 2011; Henry, Rendell, Green, McDonald & O'donnell, 2008; Perry, Henry & Grishman, 2011).

Investigating other emotion regulation strategies, Rowland and colleagues (2013) found that the schizophrenia group were more likely to use catastrophizing and rumination, and were also more likely to blame others. In a later study, self-blame and catastrophizing were found to be consistent predictors for symptomatology in schizophrenia (Rowland et al., 2013). Jansen, Gispens-de Wied & Khan (2000) looked at different strategies and found that individuals diagnosed with schizophrenia scored significantly higher on the use of escape, avoidance and passive coping strategies compared to non-clinical controls.

Difference in the use of maladaptive emotion regulation strategies can relate to participant symptom profiles and different emotion regulation scales used. There is, nevertheless, reliable evidence that individual differences in self-reported frequency of maladaptive emotion regulation strategies are associated with community-based functional outcome and symptoms (Horan, Lee, Green, Roberts & Penn, 2013; Kimhy et al., 2012). Further research focusing more widely on emotion regulation, beyond strategies, is necessary to gain an understanding of emotion regulation in psychosis (Gross & Jazaieri, 2014). The type of measures most studies used do not determine whether people had an awareness of their emotions and clear goals for their regulation, when the absence of either component can hinder the activation of emotion regulation.

Moreover, these studies did not associate emotion regulation strategies to types of experiences, specifically, positive and negative symptoms of psychosis.

3.7.6 Emotion regulation and distress related to psychosis experiences

Cognitive models of psychosis focus on the importance of abnormal attention (e.g. worry and rumination) and appraisals or reappraisals in the onset and maintenance of psychosis experiences and the distress associated with it (Bentall, 2003; Fowler, 2000; Morrison & Wells, 2007). Appraisals of situations control the onset of the emotional response, thus, they constitute part of the emotion generation process. Contrastingly, reappraisals contribute to the offset of emotional responses and are therefore classified as a form of emotion regulation (Kooze, 2009). It is thus possible for the distress associated with psychosis experiences to be linked to negative emotional states and maladaptive emotion regulation (Badcock, Paulik & Maybery, 2011; Morrison & Wells, 2007).

Osborne and colleagues (2017) investigated the associations between emotion regulation and distress from psychotic-like experiences, albeit in a non-clinical sample. They found that greater difficulties with emotion regulation were significantly associated with the frequency of positive and negative symptoms of psychosis. Distress related to psychotic-like experiences (positive and negative) was significantly and positively related to emotion regulation difficulties and lesser use of acceptance strategies. These findings need to be replicated in a clinical sample. The authors looked at difficulties in emotion regulation dimensions as a total score and therefore the details of each domain were not investigated.

Westermann and Lincoln (2011) conducted a study to gain insight into the association of specific domains of emotion regulation and persecutory delusion in a non-clinical sample. They conducted canonical correlational analysis to explore multivariate associations between emotion regulation difficulties (measured with the DERS, Gratz & Roemer, 2004) and persecutory delusions and psychosis dimensions. Their findings demonstrate that increased emotion regulation difficulties are significantly associated with increased frequency of symptoms, increased levels of

conviction, distress related to persecutory thoughts and higher general psychopathology. More specifically, increased frequency of positive symptoms was significantly associated with increased impulse control difficulties. Further, only the non-acceptance of emotional responses significantly related to distress associated with paranoid thoughts. The authors suggested that in order to assess their emotions and the distress they experience in relation to their experiences, participants need to have a certain level of awareness and clarity of their emotions. Therefore, people's ability to report their distress would be dependent on an existing level of emotional skills. Indeed, the authors found that the fewer difficulties people had with emotional clarity, the higher their reported distress was. Overall, the relevance of emotion regulation does not seem to be specific to paranoid ideation as almost no emotion regulation difficulties remained significant after controlling for general psychopathology. Their sample was affected by high attrition rates, with a predominance of female participants and highly educated people. Whilst their findings provide a first attempt at linking these emotion regulation dimensions with psychosis and distress related to psychosis, further research needs to be conducted in a clinical sample.

Badcock and colleagues (2011) hypothesised that emotion regulation difficulties, specifically maladaptive attentional deployment (i.e., excessive worrying or rumination) would be linked to the distress associated with voice hearing. They assessed multiple forms of emotion regulation in people with a diagnosis of schizophrenia who were hearing voices and in healthy control groups. They found that in the clinical group, suppression was associated with disruption of life and higher levels of rumination were associated with higher levels of distress related to hallucinations as well as depression. However, rumination was not significantly associated with the severity of voices (i.e. frequency, duration and loudness). This suggests that different mechanisms are involved in the maintenance of symptoms and the distress associated with symptoms. Interestingly, worry was not significantly associated with distress. The authors themselves noted that these findings do not preclude the possibility that worry influences hearing voices when assessed with different measures. Indeed, Morrison and Wells (2007) investigated the contribution of worry to distress associated with hallucinations. They found that hallucinatory distress was associated with meta-worry. Both rumination and worry are key components of metacognition and are associated with the maintenance of negative

thoughts, thus these findings suggest that metacognition, and metacognitive components are also implicated in the distress related to hallucination experiences (Morrison & Wells, 2003).

Studies presented above suggest that for someone to report being distressed about their experiences of psychosis in the first place, they need to have baseline level of awareness and clarity about their emotions (Westermann & Lincoln, 2011). Preliminary research does propose that there is an association between emotion regulation and distress related to psychosis experiences (Osborne et al., 2017; Westermann & Lincoln, 2011) however, more research is needed to elucidate the details of this relationship. Further, as suggested in Read and Gumley's (2008) theoretical model, whilst emotion regulation may mediate the relationship between insecure attachment and psychosis, cognitive processes are also key and cannot be separated. Combining emotion regulation and metacognition components when investigating distress related to psychosis experiences can provide a well-rounded understanding of the components contributing to its maintenance. Metacognition is an important cognitive vulnerability that has been associated with attachment theory (Macbeth et al., 2014) and distress related to psychosis (Hill, Varese, Jackson & Linden, 2012).

3.8 Metacognition

3.8.1 Defining metacognition

Metacognition is defined as the “stable knowledge or beliefs about one’s own cognitive system, and knowledge about factors that affect the functioning of the system” (Wells & Matthews, 1994, p.302). The concept of metacognition originated in the education literature (Flavell, 1979) but has since evolved to encompass a spectrum of psychological functions. It has been applied to depression and anxiety (Wells & Matthews, 1994) and more recently to psychosis (Morrison & Wells, 2000, 2007). Metacognition can be understood as a set of meta-processes through which people monitor, control and appraise the products and processes of awareness (Wells, 2009). It delineates how people construct integrative and holistic representations of their own and others’ behaviour in terms of mental states and use this ability to solve problems and cope with experiences that cause distress (Lysaker et al., 2013; Semerari et al., 2003).

In the literature, a number of terms related to metacognition are used interchangeably, although, they have slightly different remits; these are, mentalization, theory of mind, reflective functioning and social cognition (Penn, Sanna & Roberts, 2008). Theory of mind (ToM) relates to one’s ability to recognise mental states in oneself and others, and to understand that others may perceive the world differently (Brüne, 2005). Mentalization derived from the theory of mind literature and it relates to the ability to have understanding and insight into mental states such as beliefs, emotions, and intentions of oneself and others (Bateman & Fonagy, 2004; Brüne, 2005). Social cognition is a broad construct that relates to processes of social interpretation (Brothers, 1990). These concepts are studied separately, mainly due to how they are measured. ToM is often measured experimentally, metacognition and mentalization through personal narrative and self-reports, and social cognition is measured with a wide array of methods. Regarding the development of cognitive functions, focus has predominantly been given to the development of mentalization in relation to attachment relationships.

3.8.2 The development of metacognition

Early developmental difficulties associated with insecure attachment can also have a cognitive impact, preventing the development of a coherent, stable sense of 'self' (Bowlby, 1982). This, in turn, leads to the internalisation of a threatening or unreliable sense of 'other' (Platts, Tyson & Mason, 2002). Fonagy and colleagues (2002) proposed that we are born without the knowledge of emotional states or how to regulate them. However, we are all born with the capacity to mentalize. Metacognition is an aspect of mentalization, focusing on the cognitive features of one's mental states (Wells, 2001). Ultimately, they both relate to one's capacity to reflect on experiences (Fonagy et al., 2002).

Deficits in mentalizing may be due to genetic factors hindering intersubjective exchanges throughout childhood (Liotti & Gumley, 2008). It is also likely that skills of mentalizing, like emotion regulation, develop through the interaction with a primary caregiver (Fonagy et al., 2002). The development of functional mentalization skills can be disturbed by negative interpersonal experiences including difficulties in early attachment (Korver-Nieberg et al., 2014; Liotti & Gumley, 2008). The emotional state of the infant needs to be reflected back to them by the caregiver through 'affect mirroring' which serves to organise the child's experience (Fonagy et al., 2002). Fonagy and colleagues (1991, 1996) investigated the association between adverse early experiences, impairments in early functioning, and the onset of mental health difficulties. They proposed that the inhibition of mentalising function at a young age may have a protective purpose, by defending the person from the potentially threatening content of others' intentions. However, an established absence of reflective capacity in adulthood may have catastrophic effects by increasing exposure to interpersonal disconnection and distress, and becoming a core feature of psychopathology (Fonagy et al., 1996).

Main (1991) also investigated the development of metacognition; she related secure attachment patterns with the ability to draw upon metacognitive knowledge. Metacognitive knowledge relates to the ability to reflect on one's thoughts and have an awareness of its source and validity. Without this knowledge people cannot understand that they, and others, may have false beliefs. In turn, this may impact how

people relate to others. The memories and expectations from people's internal working models, guide a person's interaction with others (Bowlby, 1983). An insecure attachment pattern with a maladaptive IWM may therefore affect a person's memories and expectations, which, in turn, can affect an individual's ability to interact with others because they lack an adaptive internal working model enabling them to reflect their thoughts and form positive relationships with others (Main, 1991). Insecure attachment therefore contributes to the development of maladaptive metacognitive strategies for managing distress (Aydin et al., 2016).

Furthermore, Aydin and colleagues (2016) investigated the developmental sources of impaired metacognition in people diagnosed with schizophrenia; they specifically focused on childhood trauma, insecure attachment and adverse caregiver attitudes. The clinical group had greater levels of all three of these factors compared to healthy control. Specifically, reports of childhood emotional abuse, anxious attachment and overprotection by caregivers were significantly related to metacognitive capacity. They also found that people with anxious attachment styles tended to have poorer abilities to recognize and think about the mental states of others. In addition, they had difficulty in forming complex mental states and representations about the self and others in general. Whilst the cross-sectional nature of their work precludes drawing causal conclusions, the authors suggest that, consistent with other work on attachment, mentalization and metacognition (Fonagy et al., 2002; Harder & Daniel, 2014; Main, 1991), the development of insecure attachment styles may result in a decreased ability to form a complex and integrated sense of self and others. Macbeth et al. (2014) found that associations between mentalization and attachment showed that individuals with secure attachment patterns display significantly higher reflective function than individuals with avoidant attachment. While secure attachment may act as a protective factor, childhood adversity and insecure attachment patterns relate to difficulties in metacognitive skills, which in turn have been related to psychological difficulties.

3.8.3 The role of metacognitive beliefs in psychological disorders

The Self-Regulatory Executive Function (S-REF) model (Wells & Matthews, 1994) is an information processing model that outlines factors involved in the aetiology and maintenance of psychological disorders, through maladaptive cognitive and attentional mechanisms such as rumination, heightened self-focused attention, and threat monitoring (Hill et al., 2012). Specifically, the model outlines factors that modulate and control thinking (i.e. metacognitive processes), and contributes to the maintenance of affective dysregulation, by determining what is perceived to be distressing or dangerous, what a person's desired cognitive 'goal-state' is, and the strategies one employs to regulate distress (Wells, 2000). The model was first developed for anxiety and emotional disorders, where emotional dysfunction is central, however, recent research suggest that the S-REF model is a generic model that explains the development and maintenance of any psychological difficulty.

Metacognitive knowledge and metacognitive control strategies are the key constructs of the S-REF model (Wells, 2000). Metacognitive knowledge relates to the beliefs people hold of their own cognition. It can be explicit or implicit and includes the plans and the goals guiding cognitive processes (Wells & Matthews, 1994), such as attention allocation, application of memory and use of heuristics. Metacognitive knowledge is often referred to and operationalized as *metacognitive beliefs*; i.e. people's assumptions outlining the perceived importance and consequences of specific thoughts (Wells & Matthews, 1994). The S-REF includes both positive and negative metacognitive beliefs. *Positive metacognitive beliefs* reflect the usefulness of strategies such as worry and rumination, and promote the implementation of unhelpful coping responses (Wells, 2009). *Negative metacognitive beliefs*, on the other hand, are associated with beliefs of the uncontrollability and danger of thoughts and affect how thoughts and thought processes are appraised. The other key construct is metacognitive control strategies. They relate to responses people use in order to control the activities of their cognitive system. Whilst these are used to enhance memory in everyday life, in psychological difficulties, control strategies are more likely directed towards controlling the stream of consciousness; e.g. worrying or ruminating to solve problems and trying to reappraise experiences to modify emotional responses (Koole, 2009;

Morrison & Wells, 2007). These are operationalized as *thought control strategies* (Wells & Matthews, 1994).

In most cases, appraisals are dealt with through appropriate coping strategies and periods of intense emotion and distress are brief. However, this is often not the case in psychological difficulties, where maladaptive cognitive and attentional mechanisms such as ruminative processing, heightened self-focused attention and threat monitoring are associated with a non-specific Cognitive Attentional Syndrome (CAS). When a person becomes distressed, it is assumed that the CAS interferes to stop the needed cognitive adjustments. Therefore, the situation is not re-assessed, the strategies are not changed and the goals are not re-established, all of which prevents the person from returning to normal functioning (Wells & Matthews, 1994).

In line with these assumptions, support for the role of unhelpful metacognitive beliefs and psychological difficulties have been found in a range of mental health disorders, including depression (Papageorgiou & Wells, 2001), generalized anxiety disorder (Wells & Carter, 2001) and post-traumatic stress symptoms (Roussis & Wells, 2006). More recently, research focused on the relationship between metacognitive beliefs and psychosis (e.g. Lysaker et al., 2005; Morrison & Wells, 2003; Sellers, Varese, Wells & Morrison, 2017).

3.8.4 Metacognition and psychosis

A recent literature review and meta-analysis shows that patients with psychosis spectrum disorders report higher levels of unhelpful metacognitive coping strategies (e.g. attentional biases, worry, rumination, thought control) when compared to healthy controls and comparable levels to clinical groups with affective disorders (Sellers et al., 2017). People with a diagnosis of psychosis had significantly more elevated unhelpful metacognitive beliefs than non-clinical control groups (Morrison & Baker, 2000; Morrison & Wells, 2003; Morrison, French & Wells, 2007; Lobban, Haddock, Kinderman & Wells, 2002). On the continuum of psychosis, a number of studies found that people who are prone to psychosis have an increased number of both positive and negative metacognitive beliefs (Larøi & Van der Linden, 2005; Morrison, Wells &

Nothard, 2000) as well as low cognitive confidence (García-Montes, Cangas, Pérez-Álvarez, Fidalgo & Gutiérrez, 2006). Samples identified as ‘at-risk’ of psychosis found that at-risk mental states and subsequent transition to first episode psychosis (Barbato et al., 2013; Morrison et al., 2002) were related to greater endorsement of negative metacognitive beliefs. Moreover, unhelpful metacognitive beliefs also discriminated between different courses of illness where higher levels of difficulty related to a more severe course of psychosis (Austin et al., 2015).

3.8.4.1 Metacognition and positive symptoms

Sellers, Varese, Wells and Morrison (2017) conducted a meta-analysis of metacognitive beliefs in psychosis. They found that subscales of the MCQ were significantly more elevated in psychosis samples when compared to non-psychiatric controls; negative beliefs about the uncontrollability and danger of thought and cognitive confidence demonstrated large effect sizes, positive beliefs showed moderate effect and cognitive self-confidence had a small effect size (Sellers et al., 2017). The authors selected studies that employed both the MCQ-30 (Wells and Cartwright-Hatton, 2004) and the MCQ-60 (Cartwright-Hatton & Wells, 1997). The latter does not include the subscale *need for control* therefore this was not included in their analysis and no conclusions can be drawn on its association to psychosis experiences.

Studies using the MCQ consistently found associations between unhelpful metacognitive beliefs and positive symptoms (Sellers et al., 2017). However, the findings are not consistent for the association between metacognitive beliefs and positive symptoms of psychosis using the metacognitive assessment scale and its abbreviated version (respectively MAS; Semerari et al., 2003 and the MAS-A; Lysaker et al., 2005); since some studies found no associations (Macbeth et al., 2014; Nicolò et al., 2012; Vohs et al., 2014) and others found few correlations (Lysaker et al., 2005; McLeod, Gumley, MacBeth, Schwannauer, Lysaker, 2014a). McLeod and colleagues (2014a) found that metacognition at baseline also predicted positive symptoms at six and twelve-month follow-up. Studies also found the association between metacognition difficulties and the development and maintenance of hallucinations (Baker & Morrison, 1998; Morrison et al., 2004), delusional beliefs (Freeman et al., 2002; Morrison et al., 2004b) and paranoia (Campbell & Morrison, 2007).

3.8.4.2 Metacognition and negative symptoms

A number of studies investigated the association between metacognition and negative symptoms of psychosis in clinical samples (Hamm et al., 2012; Lysaker et al., 2005; Macbeth et al., 2014; Nicolò et al., 2012; Rabin, Avidan, Rozenzweig & Shalev, 2014; Trauelsen et al., 2016; Vohs et al., 2014). Lysaker and colleagues (2005) found an association between emotional withdrawal and difficulties in understanding one's own mind, the minds of others, and people's ability to deploy this information to solve social problems. Nicolò and colleagues (2012) replicated this study and found that emotional withdrawal was significantly negatively correlated with understanding but not with the other dimensions of metacognition. Whilst other negative symptoms (affective blunting and volitional disturbance) were also negatively associated with understanding one's own mind, however, these associations did not reach significance. This may be due to the small sample size of the study. Other studies also found associations between negative symptoms and understanding one's own mind (Lysaker, Dimaggio, Buck, Carcione & Nicolò, 2007; Mitchell et al., 2012) and difficulties with understanding the minds of others (Macbeth et al., 2014; Mitchell et al., 2012) as well as problems with mastery (Mitchell et al., 2012).

Hamm and colleagues (2012) investigated metacognition and emotion recognition in a schizophrenia spectrum disorder sample at two time points across six months. They found that metacognition significantly predicted the variance in negative symptoms at the follow-up, and the relationship remained significant after controlling for initial levels of negative symptoms. As the sample had been experiencing psychosis for a long time, it is possible that the deficits observed are a consequence of the chronicity of their experiences. However, Macbeth and colleagues' (2015) study suggest this may not be the case, as they found associations between negative symptoms and deficits in the understanding of one's own mind and others' mental states extending across cognitive, emotional, integrative and decentration components of metacognition. McLeod, Gumley, MacBeth, Schwannauer and Lysaker (2014a) replicated and extended previous longitudinal research by looking at baseline, six months and twelve months. They found that when symptom severity, gender, duration of untreated psychosis and premorbid academic and social adjustment were controlled for, metacognition accounted for 62% of the variance in negative symptom scores at

six months and 38% at twelve months. In summary, difficulties in forming integrated representations of the self and others contributes to the maintenance of negative symptoms from early stages of psychosis experiences (McLeod, Gumley & Schwannauer., 2014b).

Overall, maladaptive metacognitive beliefs are elevated in psychosis samples. These support the S-REF model developed by Wells and Matthews (1994). Moreover, it is likely that metacognitive difficulties provide a generic vulnerability factor for mental health difficulties transdiagnostically (Varese & Bentall, 2011). Metacognitive beliefs may represent a vulnerability factor in a wide range of emotional and psychological difficulties without having a causal relationship with one symptom in particular (Varese & Bentall, 2011; Morrison & Wells, 2003). Instead unhelpful metacognitive beliefs may predict the distress associated with psychosis experiences (Brett et al., 2009; Sellers et al., 2017).

3.8.5 Metacognitive beliefs and distress associated with psychosis

In his cognitive model of psychosis, Morrison (2001) focused on voice hearing and suggested that positive metacognitive beliefs about psychosis experiences are associated with the occurrence of hallucinations, and that negative metacognitive beliefs about psychosis experiences are associated with the distress in responding to them. Similarly, Garety and colleagues (2001) also emphasised the role of unhelpful metacognitive beliefs in their cognitive model, focusing on delusions. Thus, the emergence of negative beliefs about the uncontrollability and danger of thoughts in relation to psychosis experiences may lead to the person being distressed about their experiences and therefore lead to help-seeking behaviour, which ultimately may lead to patient status (Morrison, Wells & Nothard, 2000). Further, negative metacognitive beliefs are likely to contribute to the maintenance of psychosis experiences (Barbato et al., 2013).

Freeman and Garety (1999) suggest that an individual's appraisal of a delusion is related to the amount of distress they experience. They found that the levels of distress a person experiences may increase as a result of how controllable the person feels their thoughts are. 'Meta-worry' (i.e. worry about worry) was found in people with persecutory delusions in relation to the control of their delusion-relevant thoughts

(Freeman & Garety, 1999). The authors concluded that the distress caused by a delusion is not solely a reaction to an unpleasant psychotic experience. Instead, the delusion causes most distress when the person perceives it to be uncontrollable. In another study, Freeman, Pugh and Garety (2008) found that the incidence of paranoia and the maintenance of delusions is related to ‘catastrophising worry styles’. This is consistent with the S-REF model (Wells & Matthews, 1994) which suggests that metacognitive beliefs about psychological experiences are related to the vulnerability of psychological disorders. In light of these findings, it can be argued that it is likely for negative metacognitive beliefs about the uncontrollability and perceived danger of psychosis experiences increases the level of distress the person associates with their experiences.

Indeed, later research associated metacognitive beliefs with increased distress related to psychosis experiences (Brett et al., 2009; Hill et al., 2012). Brett, Johns and Peters (2009) set out to investigate whether maladaptive metacognitive beliefs are associated with the occurrence of psychotic-like anomalies or resultant distress, and if metacognitive beliefs related specifically to first rank symptoms or all psychosis experiences. Their sample included two clinical groups, one diagnosed with a psychosis disorder and the other meeting the criteria for an ‘at-risk mental state’ (ARMS), a non-clinical group reporting similar anomalous experiences, and a group of healthy volunteers without any anomalous experiences. As expected, the two clinical groups had higher metacognition scores than the non-clinical groups. Of all MCQ subscales, only negative beliefs about thoughts significantly predicted distress related to psychosis experiences. Whilst negative beliefs about thoughts in general clearly differentiated the diagnosed and at-risk groups from the control and undiagnosed groups, negative beliefs about uncontrollability of thoughts were not specifically elevated in these groups. This is in line with Morrison and colleagues’ (2007) findings and supports the argument that metacognition may be related to distress associated with psychosis experiences. Further, they did not find a significant difference between positive and negative metacognitive beliefs in ARMS and the diagnosed group. Therefore, Morrison and colleagues’ (2007) suggestion that the combination of positive and negative beliefs leading to the development of distressing symptoms was not supported. Brett and colleagues’ (2009) findings also suggest that metacognitive beliefs are not associated with specific psychosis experiences. When

controlling for other subscales, only higher negative beliefs about thoughts significantly predicted greater distress. This relationship remained significant when depression was controlled for. This study provides support for metacognitive beliefs, specifically negative beliefs about the thoughts, being associated with distress related to psychopathology.

A later study by Hill and colleagues (2012) hypothesised that metacognitive beliefs are implicated in the development of distress associated with auditory verbal hallucinations rather than their aetiology. They recruited three groups: clinical voice hearers with a psychiatric diagnosis, non-clinical voice hearers and a control group with no history of voices. The clinical group scored higher than the other groups, and 'need for control' significantly predicted voice related distress. Whilst this effect remained significant after controlling for anxiety, when the authors controlled for group (clinical vs. non-clinical), distress was significantly predicted by group only. The patterns of these result suggest that metacognitive beliefs relate to distress associated with psychosis and need for care (Hill et al., 2012).

In their conclusion, Hill and colleagues (2012) call into question whether Brett and colleagues' (2009) results might be artefactual since they did not control for group differences. Whilst this is possible, the group differences may exist because of differences in levels of distress in the first place. If high levels of distress lead to help-seeking (Underwood, Kumari & Peters, 2016) then it is likely that people with higher levels of distress will be in the clinical group and groups will be dependent on distress levels. The studies also differed in their focus: while Brett and colleagues (2009) assessed Schneiderian first-rank symptoms, anomalies of perception, cognition and affect (using the AANEX inventory, Brett et al., 2007), Hill and colleagues (2012) only focused on voices. This may elucidate why need for control was a significant predictor in Hill and colleagues' (2012) study and negative beliefs was a predictor in Brett and colleagues' (2009) study. It would be helpful to determine which metacognitive subscales relate to distress associated with positive and negative symptoms of psychosis. In stating that, the comparative nature (clinical vs. non-clinical) of these studies led to the exclusion of negative symptoms, therefore, further research is needed to determine how unhelpful metacognitive beliefs relate to distress associated with negative symptoms of psychosis. Even though other studies (Barbato

et al., 2013; van Oosterhout, Krabbendam, Smeets & van der Gaag, 2013) state investigating the relationship between metacognition and distress related to psychosis experiences, these studies were not reviewed as they investigate distress as anxiety and depression and do not focus on the distress directly related to psychosis experiences.

3.9 Emotion Regulation and Metacognition as Related Mechanisms

Insecure attachment patterns have an effect on affective, cognitive and behavioural components of a person's functioning (Berry, Wearden & Barrowclough, 2007c). As per the information presented in this literature review, attachment patterns play a role in the development of both emotion regulation and metacognition (see Main, 1991 and Mikulincer & Shaver, 2007). Furthermore, both emotion regulation and metacognition have been identified as vulnerability factors for the development and maintenance of psychosis (Read & Gumley, 2008) and distress related to psychosis (Brett et al., 2009; Osborne et al., 2017). Often, these two factors are investigated individually. However, it is suggested that they both influence and affect each other (Badcock et al., 2011; Wells, 2000). Emotion regulation and metacognition have previously been investigated together to examine alcohol use (e.g. Dragan, 2015; Spada et al., 2013) and PTSD (e.g. Mazloom, Yaghubi & Mohammadkhani, 2016) but they have not yet been investigated together in a psychosis sample. Therefore, it may be helpful to investigate them in parallel in trying to understand their role in the relationship between attachment and distress related to psychosis.

In describing the process model of emotion regulation, Gross and Thompson (2007) state that cognitive changes come into play during the appraisal stage within the emotion regulation cycle. So cognitive changes can influence how a situation is appraised and the regulation decision is made (Koole, 2009). In this context, cognitive change refers to efforts to revise the meaning of the situation in an attempt to influence one's emotions (Gross & Jazaieri, 2014). Thus, unhelpful metacognitive beliefs are likely to influence how emotions are regulated when people are appraising their experiences of psychosis, possibly contributing to emotion dysregulation (Sellers et al., 2017).

In turn, the role of emotions in metacognition has also been relatively neglected both in clinical and academic research (Manser, Cooper & Trefusis, 2012). Metacognitive beliefs, thoughts and emotions are a central aspect of metacognitive theory and play an important role in the maintenance of psychological disorders and distress (Wells & Matthews, 1994). Wells (2000) suggests that such beliefs can influence the use of unhelpful strategies which may interfere with the individual's effort to return to a 'non-disordered' functioning. Moreover, according to the S-REF model (Wells & Matthews, 1994), the CAS (cognitive attentional syndrome) is a style of managing both thoughts and emotions: it involves extended thinking (e.g. worry and rumination) and maladaptive coping strategies such as suppression. It is problematic because it allows negative thoughts and emotions to persist, causing failure to modify dysfunctional metacognitive beliefs and resolve self-discrepancies (Wells, 2000). Thus, difficulties in emotion regulation can be seen as a manifestation of the consequences of CAS, and reflect underlying dysfunctional metacognition.

Collectively, difficulties in emotion regulation and unhelpful metacognitive beliefs are likely to influence each other and contribute to the maintenance of distress related to psychosis experiences together. It is therefore important to investigate them together in exploring their role in the relationship between insecure attachment and distress related to psychosis.

Chapter 4: A Mixed Methods Project

4.1 Overall Aim of the Project

Distress associated with psychosis experiences is related to negative outcomes (Brett et al., 2014). Existing research suggests that the distress people experience results from maladaptive appraisals (Brett et al., 2007). However, the role psychological vulnerability factors play in the maintenance of this distress is unknown. Moreover, people's experiential accounts of their appraisals of psychosis experiences have also been neglected in the literature. A mixed methods project was therefore designed in order to conduct a well-rounded investigation and gain better understanding of distress associated with psychosis experiences.

Specifically, the current project examined psychological vulnerability factors and appraisals of psychosis experiences contributing to the maintenance of distress related to psychosis experiences in a clinical sample.

4.2 Rationale for Mixed Methods: Epistemological Justifications

Creswell and Plano Clark (2007) define the central premise of mixed methods as, "the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone" (2007, p.5). The power of mixed methods research lies in the combination of insights. It provides access to the strengths that offset the weaknesses of both qualitative and quantitative research and it permits an enriched understanding of the investigated research area (Bryman, 2006; Creswell, 2003). Authors suggest that the difference between the two approaches decreased and the previously supported 'purist' dichotomy was abandoned for new combined methods studies (Tashakkori & Teddlie, 2010). In this project, mixed methods enabled a more complete investigation of distress associated with psychosis experiences.

Quantitative research is employed to collect information on specific variables focusing on larger numbers that qualitative data lacks (Yardley, 2000). The quantitative self-report data presents a clear understanding of the direction and strength of the associations between variables. Quantifiable data is useful for generalisations

and predictions. Despite these strengths, quantitative research is not very good at explaining behaviours and perceptions (Brannen, 1992). Moreover, quantitative findings can be detached from the real-world contexts (Moghaddam, Walker & Harre, 2003). Qualitative research on the other hand, involves a detailed exploration and in depth focus on the studied topic, focusing on experiences unique to each participant within the context in which their experiences are grounded (Creswell, 2011). The depth and nuance of people's appraisals of their psychosis experiences will be investigated by qualitative data allowing respondents to elaborate on their beliefs and perceptions, contextualising their lived experiences into wider social and temporal subjectivities, exploring how the experiential nature of the phenomenon may have varied over time and across individuals. Despite these strengths, qualitative data is inappropriate to generalise and make predictions (Plano Clark, Huddleston, Churchill, Green & Garrett, 2008).

Pragmatism is appealing for mixed methods research in that it rejects the objective-subjective dualism, allowing for both to be explored (Creswell, 2011; Teddlie & Tashakkori, 2009). When looking at research through a pragmatic lens the aim of research is not to obtain access to an independent truth abstracted from human experience but rather to generate in depth, rich understandings that will be useful in a wider context (Bishop, 2015). Because research is designed to answer posed questions, research designs and methods cannot be right or wrong but can have different levels of 'appropriateness' (Willig, 2013). Consequently, knowledge is obtained through different channels that can be a combination of both text and numbers. Nevertheless, a number of philosophical aspects of mixed methods designs have been criticised. This separation comes from quantitative approaches being traditionally associated with positivist epistemologies and qualitative approaches being associated with constructivist or interpretive epistemologies (Bishop, 2015). Pragmatism is a framework that can embrace both quantitative and qualitative research (Tashakkori & Teddlie, 2015), it does so by acknowledging the epistemological differences between the different approaches. Yet, these forms of research are not seen as incompatible and a shared aim for research is supported. A pragmatic stance emphasises that imagination and interpretation can be found in all human enquiry, values and intentions are included whilst being grounded in empirical, embodied experience (Yardley & Bishop, 2008). The choice of methods was therefore dictated by the research questions

and purpose rather than paradigmatic commitments (Tashakkori & Teddlie, 2010).

4.3 Research Questions

Study 1:

Quantitative research question:

- 1) How are psychological vulnerability factors (insecure attachment, emotion regulation and metacognition) associated with distress related to psychosis experiences?

Study 2:

Qualitative research question:

- 2) What are people's appraisals of their psychosis experiences in relation to the distress they experience?

The frameworks of two different paradigms were used in a single project to address different research questions (Creswell, 2003). A mixed methods research question (also called a 'hybrid' or 'integrated' research question; Creswell, 2007, p. 208) was also devised in an attempt to bring together the two methods employed in this project. This was guided by the concept of crystallization (Ellingson, 2008 in Fitzpatrick, 2016). Crystallization originates from the qualitative research literature and relates to the use of multiple methods in order to provoke new insights and questions about the phenomenon being examined (Fitzpatrick, 2016). Thus, this mixed methods research question is not aimed at finding one 'truth', rather, it is there to problematize and provoke further discussion and investigation through the convergence of both sources of data. Because the concept of 'distress related to psychosis experiences' is in its infancy and is complex and multifaceted, this approach to problematizing quantitative and qualitative data convergence seemed to be a good start for highlighting the importance and potential of studying distress related to psychosis. This mixed methods question was derived from the format for triangulation convergence mixed methods designs proposed by Creswell and Plano Clark (2007, Table 5.2 in Fitzpatrick, 2016):

- 3) In what ways do the self-report and interview findings align with one another to further understanding of distress related to psychosis?

As these questions are purposefully broad and complex, the comparison and contrast of findings from equally weighted quantitative and qualitative portions of the study was considered the best way to learn about the phenomenon. Mixed methods literature is growing in the social sciences and there is a number of ways for methods to be mixed in order to be most appropriate for the particularities of each research. In deciding how this project will be designed and conducted, Plano Clark and colleagues (2008) and Onwugbuzie and Combs's (2015) guidelines and suggestions were considered.

4.4 Mixed Methods Project Design

Mixed methods researchers argue for the importance of considering timing and weighing of the various methods used in mixed methods research (Onwugbuzie & Combs, 2015; Plano Clark et al., 2008). For this project, the quantitative and the qualitative components of the study were collected simultaneously, in parallel. This was decided a priori in relation to the time constraints of the PhD. Both methods were given equal weight throughout the project, as they complete each other in providing a well-rounded understanding of distress associated with psychosis experiences. It was also decided, in the design phase, that the analysis strands did not interact until the interpretation stage.

The qualitative analysis was conducted first, in order to limit the researcher being influenced by the quantitative findings of the project in analysing the qualitative findings. Once the qualitative analysis was completed, the quantitative analysis began. Quantitative and qualitative findings were then integrated at the interpretation stage (O'Cathain, Murphy & Nicholl, 2010). Integration is an intentional process by which quantitative and qualitative approaches are brought together and become interdependent in addressing a common research question (Guetterman, Fetters & Creswell, 2015). Fetters and Freshwater (2015) argued that the true benefits of mixed methods are achieved through meaningful integration and the produce of the whole is greater than the individual quantitative and qualitative parts. An interpretive integration occurs with an explanation generated from the empirical work, with knowledge obtained from different methods blending into a coherent account (Moran-

Ellis et al., 2006). Joint display integration at the interpretation and reporting level (Fetters, Curry & Creswell, 2013) was deemed to be the most appropriate way to mix the two studies of this project. Therefore, integration took place after individual studies were discussed in order to ensure that the studies achieved their full potential prior to integration, not to lose any of their individual contribution during integration. Details of how joint display integration was conducted will be presented in chapter 9.

The specific research design used in this project is called triangulation, as described by Creswell and Plano Clark (2007) (see Figure 5 for a visual representation) however, more recently, the term triangulation has been used loosely (Bazeley, 2018). Problematically, triangulation has been referred to as a tool to ensure reliability in results or validation of conclusions by having more than one method produce the same result (Greene, 2007). This is not the purpose of mixed methods in this project. Instead, mixed methods are used as different components contributing to better supported outcomes and stronger inferences than using one method alone, towards a more rounded understanding, and thus providing a more comprehensive whole (Bazeley, 2018). Having said that, the word ‘triangulation’ and the literature employing it (e.g. Vaughan Dickson, Lee & Riegel., 2011) was useful in shaping this project and will be used to describe the processes used in this project, carrying a parallel meaning to ‘complementary analysis’ (Bazeley, 2018).

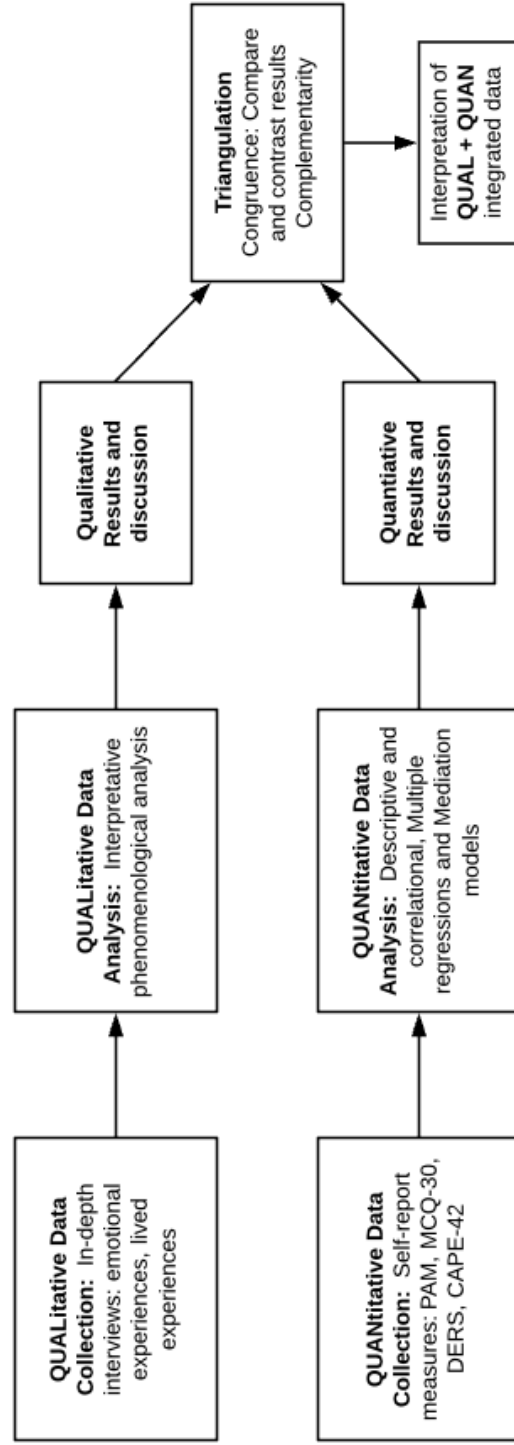


Figure 5. *Concurrent triangulation mixed methods design*

Note: PAM = Psychosis attachment Measure; MCQ-30 = Metacognitions questionnaire; DERS = Difficulties in emotion regulation scale; CAPE-42 = Community Assessment of Psychic experiences

Chapter 5. Study 1 - Psychological Vulnerability Factors Contributing to the Maintenance of Distress Related to Psychosis Experiences Within an Attachment Framework: Background and Methods

5.1 Background to the Study

Psychosis is an umbrella term referring to experiences altering a person's thoughts, feelings and behaviours. Historically, the focus on psychosis has been firmly associated with schizophrenia which has perpetuated a 'biological disease' entity (Guloksuz & van Os, 2017). More recently, a more holistic understanding of psychosis has been developing with focus on biopsychosocial approaches to its aetiology (Peters et al., 2016). Beyond the onset, psychological vulnerability factors have also been related to the course and outcomes of psychosis experiences.

Recent research suggests that psychosis sits on a continuum with normality (Claridge, 1994; van Os et al., 2009; Linscott & van Os, 2013). A number of studies have compared clinical (help-seeking, need-for-care) samples with non-clinical (non-help-seeking) samples to explore risk and protective factors for psychosis (Brett et al., 2007; Boumans et al., 2016; Heriot-Maitland et al., 2012; Peters et al., 1999a; Lovatt et al., 2010). They consistently found that the samples did not differ in the types of psychosis experiences but the groups were differentiated by the meaning they gave to their experiences and their emotional and behavioural responses to those experiences (Peters et al., 2016). For instance, Brett and colleagues (2007) identified that clinical samples had more negative appraisals of their experiences. Maladaptive appraisals were attributed to external causes (Garety et al., 2001, 2007), were of personal significance (Mawson, Cohen & Berry, 2010) and characterised experiences as uncontrollable (Garety et al., 2007; Morrison & Peterson, 2003). These appraisals can in turn lead to distress associated with psychosis experiences and to help-seeking (Underwood et al., 2016). In the literature, the term distress has been used interchangeably with a large number of concepts including emotional distress, such as anxiety and depression comorbid with psychosis (e.g. Birchwood, 2003) or referring to self-esteem, anger, stress and tension (e.g. Brockman, Kiernan, Brakoulis & Murrell, 2014), making it difficult to operationalise. This project, in line with cognitive models of psychosis, focuses on state-distress related to psychosis experiences, measured in connection with people's psychosis experiences (e.g. Brett et al., 2014; Mawson, Cohen & Berry, 2010;

Underwood et al., 2016). It is the distress related to the psychosis experiences themselves, quantified in relation to people's experiences, that is the purpose of investigation in this research. Gaining a better understanding of distress experienced in psychosis can have important benefits in identifying the factors that lead to help-seeking as well as the maintenance of psychosis experiences. Despite recruiting people who have a diagnosis of schizophrenia spectrum disorders (e.g. Brett et al., 2015) the studies investigating appraisals do not focus on negative symptoms of psychosis. This is likely because these studies compare experiences with non-clinical groups and negative symptoms are likely to be absent in those samples (Peters et al., 2016). Thus, this project will elucidate the psychological factors involved in the maintenance of distress associated with positive, negative and depressive psychosis experiences.

Cognitive models of psychosis propose that anomalous experiences become problematic, depending on the appraisal of the experience and the subsequent emotional response (Chadwick & Birchwood, 1994; Freeman, 2007). They propose that individuals' beliefs about their thought processes and internal experiences, and their beliefs about themselves, others and events in the world, determine the appraisals they will make of their anomalous experiences (Brett et al., 2009; Garety et al., 2001, 2007; Morrison, 2001). Early life experiences underpin the development and internalisation of representational models of the self and personal capabilities and the world, creating a template for regulating distress and interpersonal functioning throughout the life cycle (Bowlby, 1982). Attachment theory can therefore help to develop an understanding of distress associated with psychosis experiences.

The attachment system is a safety-seeking mechanism designed to be activated in response to environmental threats (Bowlby, 1969). Attachment theory is established as a framework for understanding psychosis as it integrates cognitive and emotional findings on psychosis (Berry et al., 2006; Macbeth, 2008; Mallinckrodt, 2000; Ponizovsky et al., 2007). Research suggests that insecure attachment dimensions relate to poorer outcomes in psychosis (Gumley, Taylor, Schwannauer & MacBeth, 2014; Korver-Nieberg, Berry, Meijer & de Haan, 2014). Further, a number of studies investigated the associations between insecure attachment patterns and positive and negative psychosis symptoms (Berry et al., 2006; Kvrđic et al., 2011; Ponizovsky et al., 2007; van Dam, Korver-Nieberg, Velthorst, Meijer & de Haan, 2014). Most relevant to

the current study, a number of studies have used the Psychosis Attachment Measure (PAM; Berry et al., 2008) with clinical samples (Arbuckle et al., 2012; Berry et al., 2007c, 2009, 2011; Kvrjic et al., 2011). They found that more psychiatric symptoms were related to higher avoidance (Berry, Barrowclough & Wearden, 2008, 2009). More specifically, attachment avoidance was significantly and moderately associated with positive and negative symptoms (Berry et al., 2008; Carr et al., 2018; Gumley et al., 2015; Korver-Nieberg et al., 2014). The relationship between anxious attachment styles and symptoms severity is more equivocal in clinical populations (Korver-Nieberg et al., 2014), however in a recent meta-analysis, Carr and colleagues (2018) found consistent small and significant associations between attachment anxiety and avoidance and positive symptoms in clinical samples but significant associations were not found between anxious attachment and negative symptoms in clinical populations (Carr et al., 2018). These relationships are also expected to be found in this study.

It is possible that attachment patterns are more directly related to the distress associated with psychosis experiences rather than its severity. There are no studies to this researcher's knowledge that explicitly explore the link between attachment patterns and distress related to positive, negative and depressive psychosis experiences. Berry, Wearden and Barrowclough (2012) investigated attachment patterns related to voice hearing in a clinical sample and they found that attachment anxiety was related to greater severity of voices and greater distress related to voices. However, they did not find significant associations between distress related to voices and avoidant attachment. Both insecure attachment dimensions will be explored in relation to distress associated with positive, negative and depressive symptoms.

Read and Gumley (2008) theorised that the relationship between attachment and psychosis is likely to be mediated by emotional, cognitive and interpersonal processes. The development of insecure attachment dimensions is likely to lead to the emergence of difficulties in emotion regulation (Owens, Haddock & Berry, 2013; Shaver & Mikulincer, 2007), and these difficulties may therefore play a role in the development and maintenance of distress associated with psychosis experiences. Osborne (et al., 2017) investigated difficulties in emotion regulation and psychotic-like experiences in the general population. They found that higher levels of emotion dysregulation were associated with higher levels of distress from positive and negative psychotic-like

experiences. They did not investigate specific dimensions of emotion regulation nor did they investigate distress related to depressive symptoms. Further research is necessary to determine the role of emotion regulation difficulties in the maintenance of distress related to experiences of psychosis.

Insecure attachment styles are related to metacognitive difficulties in forming complex representations about the self and others (Aydin et al., 2016). In addition, metacognition relates to processes of appraisal, monitoring or control of cognition (Wells, 2000). Morrison (2001) proposed that negative beliefs about the self, others and the world are developed in response to trauma, and that they are predicted to mediate the distress experienced in relation to psychosis. Previous research found that metacognition has a role in symptom maintenance, help-seeking and distress related to experiences, rather than representing an etiological component of symptoms (Brett et al., 2015; Morrison et al., 2007; Sellers et al., 2017). It is however unclear which specific metacognitive beliefs relate to distress. Brett and colleagues (2009) investigated metacognition in four samples (two clinical and two non-clinical groups) and identified a significant association between distress about anomalous experiences and negative beliefs about the uncontrollability and danger of thought. Hill and colleagues (2012) on the other hand, found that need for control was the only predictor of voice related distress. When they controlled for group differences (clinical voice-hearers with diagnosis, non-clinical voice-hearers with no psychiatric history, control group), however, this factor was no longer significant. In both cases, the sample sizes were small and the authors were focused on comparing psychosis groups with non-clinical groups. In addition, one of the studies focused on psychotic-like experiences in general and the other only focused on voice hearing. Therefore, identifying similarities and differences between the factors constituted the main focus and a more detailed exploration of distress specific to positive and negative psychosis symptoms did not take place. For the current study, identifying how psychological factors influence distress constitutes the primary aim. Therefore, the role emotion regulation difficulties and unhelpful metacognitive beliefs play in the distress associated to positive, negative and depressive symptoms of psychosis will be investigated.

In the literature, emotion regulation and metacognition are often investigated individually, thus, the role emotion regulation plays in metacognition and vice versa

are often neglected (Manser et al., 2012). The focus on metacognition in association with mental health difficulties gained prominence following the development of the Self-Regulatory Executive Function (S-REF) model developed by Wells and Matthews (1994). The S-REF model states that disorders are linked to a style of thinking that interferes with the down-regulation of unwanted emotional experiences (Wells & Matthews, 1996). It can be argued that since metacognition fulfils an executive function regarding cognitive processes involved in appraisal, control and monitoring, it also plays a contributory role in emotion regulation (Wells, 2000). From this perspective, the role of unhelpful metacognitive beliefs is key to the development and persistence of emotion dysregulation (Sellers et al., 2017). In turn, it is also likely that emotion dysregulation increases negative thinking styles and helps perpetuate negative appraisals. The cognitive attentional syndrome (CAS) is a style of managing thoughts and emotions (Wells, 2000). It involves extended thinking (such as worry), threat monitoring and maladaptive coping strategies such as rumination and thought suppression. The CAS prolongs and intensifies negative emotional experiences as it is responsible for ineffective cognitive-emotional self-regulation (Wells & Matthews, 1996). Emotion dysregulation can be seen as a manifestation or a consequence of the CAS and reflect underlying metacognitive difficulties.

Thus, emotion regulation and metacognition influence each other and will be investigated in parallel in order to explore the relationship between insecure attachment dimensions and distress related to psychosis (see figure 6). Mediators in parallel mediation can be correlated but cannot causally influence each other (Hayes, 2013). It is impossible to know if emotion regulation or metacognition lead to each other, thus serial mediation is not appropriate. With parallel mediation each proposed mediator can be tested while accounting for the shared variance between them (Hayes, 2013). Understanding the role of metacognition and emotion regulation in the maintenance of distress associated with psychosis experiences will allow for the development of interventions in order to reduce people's need for care.

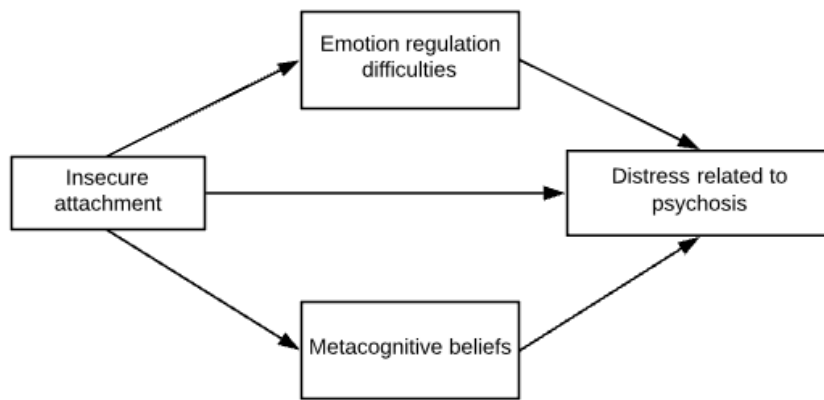


Figure 6. *The multiple mediation model investigated in Study 1*

Overall, Study 1 has two primary aims: 1) to investigate associations between insecure attachment, emotion regulation difficulties, metacognitive beliefs and levels of distress related to psychosis experiences; and 2) to explore whether unhelpful metacognitive beliefs and emotion regulation difficulties dimensions have a mediating role within the relationship between insecure attachment and psychosis related distress. In order to achieve these aims, a self-report cross sectional quantitative study was designed.

It is hypothesised and postulated that:

- 1) Attachment dimensions and distress related to psychosis:
 - a. As an extension of Berry, Wearden and Barrowclough's (2012) finding that attachment anxiety is significantly associated with distress related to voice hearing: It is hypothesised that *attachment anxiety* will significantly predict increased *distress related to positive symptoms of psychosis*.
 - b. Both insecure attachment dimensions will significantly predict increased *distress related to depressive symptoms in psychosis*.

Research question a: As an extension of Carr and colleagues' (2018) meta-analysis findings: It is expected that there will be no significant associations between insecure attachment dimensions and *distress related to negative symptoms*.

- 2) Emotion regulation and metacognition will predict distress related to positive, negative and depressive psychosis symptoms; More specifically (in relation to Brett et al., 2009 and Hill et al., 2012 findings), it was hypothesised that *negative beliefs about the uncontrollability and danger of thoughts* and *need for control* will predict *distress related to positive symptoms of psychosis*.

Research question b: The relationship between emotion regulation and metacognition subscales and distress related to negative symptoms and distress related to depressive symptoms will be explored as this relationship has not been investigated previously.

- 3) Difficulties in emotion regulation and unhelpful metacognitive beliefs will mediate the relationship between insecure attachment dimensions and distress related to positive, negative and depressive psychosis symptoms.

5.2 Participants

Participants were recruited from the community. Inclusion criteria were: 1) Meet the ICD-10 (WHO, 1992) criteria for Schizophrenia, Schizoaffective or Schizotypal disorders, Bipolar disorders with psychotic features or psychosis not otherwise specified and/or the DSM-V criteria for psychosis or ICD-10 equivalent (APA, 2013; WHO, 1993); 2) Participants had to have the capacity to consent; 3) Speak English (literacy was not an exclusion criterion as the researcher read the questions aloud if the participants requested it). The exclusion criteria were; 1) Individuals who have a learning disability (as stipulated by the ICD-10 or the DSM-V); 2) Participants unable to consent; 3) Anyone under the age of 16; 4) Participants diagnosed with 'organic psychosis'.

Sixty people constituted the quantitative sample. Thirty-nine (65%) were male. The mean age at the time of data collection was 49.82 (SD= 10.82). The majority of the sample (n=44) reported they were single (73.3%). Fifty-eight (96.7%) people were white British alongside one Asian and one 'other'. On average, people in this sample have been experiencing mental health difficulties for 28.45 (SD=12.73) years.

5.3 Measures

It has previously been argued in the literature that clinical samples diagnosed with psychosis, may be unable to complete self-report measures about their psychological experience in a valid and reliable way. This argument was based on the perception that people experiencing psychosis have cognitive difficulties (Neuchterlein et al., 2004), and systematically lack insight (Drake et al., 2004). These assumptions have been challenged with numerous research using self-report measures in a psychosis population (e.g. Gumley et al., 2013; Huppert, Smith and Apfeldorf, 2002; Preston & Harrison, 2003). More specifically, self-report measures employed in this study have been successfully used in previous studies to measure attachment (Berry et al., 2008), emotion regulation (Livingstone et al., 2006) and metacognition (Morrison & Wells, 2003) in psychosis populations. It is therefore appropriate to employ the following self-report measures for this study.

5.3.1 Psychosis Attachment Measure (PAM; Berry, Barrowclough & Wearden, 2008)

Adult attachment style was assessed by the Psychosis Attachment Measure (PAM). The self-rated measure is constituted of 16 items, with eight items assessing insecure attachment avoidance (e.g. “I usually discuss my problems and concerns with other people.”) and eight items assessing insecure attachment anxiety (e.g. “If other people disapprove of something, I get very upset.”) in the context of current close relationships in adulthood (Berry et al., 2008). Participants are asked to state how much the statements are like them on a four-point Likert scale ranging from ‘not at all’ to ‘very much’. Total scores are calculated for each dimension by averaging individual item scores, with higher scores reflecting higher levels of anxiety and avoidance and low scores reflecting attachment security. Berry et al. (2008) administered the measure to a sample of outpatients experiencing psychosis and found good levels of internal reliability and good to acceptable test-retest reliability for the two subscales; attachment anxiety (Cronbach’s $\alpha = .82$, ICC = .71) and attachment avoidance (Cronbach’s $\alpha = .76$, ICC = .56).

5.3.2 Metacognitions Questionnaire (MCQ-30; Cartwright-Hatton and Wells, 1997)

The Metacognitions Questionnaire (MCQ) is a multi-dimensional measure of beliefs about worry and intrusive thoughts. It was first constructed with 65-item, the authors found that this limited its application, and the questionnaire was further developed to create a 30-item version, rated on a four-point Likert scale (Wells & Cartwright-Hatton, 2004). The MCQ-30 consists of five factors; (1) positive beliefs about worry, (2) negative beliefs about worry concerning uncontrollability and danger, (3) cognitive confidence, (4) negative beliefs about thoughts concerning the need to control thoughts, and (5) cognitive self-consciousness. These subscales measure three domains of metacognition: metacognitive monitoring, positive and negative metacognitive beliefs and cognitive confidence (Wells & Cartwright-Hatton, 2004). Scores for each of the five subscales are calculated by summing the responses from the six items that comprise that factor. Construct and convergent validity of the scale have been reported to be sound in previous research (alphas ranging between $\alpha=.72$ to $\alpha=.93$; in Wells & Cartwright-Hatton, 2004).

5.3.3 Difficulties in emotion regulation Scale (DERS; Gratz & Roemer, 2004)

The DERS (Gratz & Roemer, 2004) is a 36-item self-report questionnaire designed to assess multiple aspects of emotion regulation difficulties. Individuals are asked to rate how often a statement applies to them ranging on a five-point Likert scale. For example, “I pay attention to how I feel” to be rated from “almost never” to “almost always”. Higher scores in any of the subscales are indicative of emotion regulation difficulties. The measure yields a total score as well as scores on six subscales derived through factor analysis. The subscales are; lack of emotional awareness, it measures difficulties in attention to and awareness of emotions; non-acceptance of emotional responses, measuring negative secondary reactions to distress/negative emotions; difficulties in engaging in goal directed behaviour, measuring difficulties in task completion and concentrating during negative emotion states; limited access to emotion regulation strategies, measuring beliefs about whether there is anything one can do to regulate emotions when one becomes distressed; impulse control difficulties, measuring problems related to maintaining behavioural control in response to negative emotions; lack of emotional clarity, measuring how

much individuals are aware of and clear about their emotional states. The DERS has demonstrated high internal consistency with alpha's ranging between .8 and .89 for the subscales and .93 for the total score (Gratz & Roemer, 2004) and had significant relationships to measures of psychological symptoms (Salters-Pedneault, Roemer, Tull, Rucker, & Mennin, 2006; Tull, Barrett, McMillan, & Roemer, 2007; Tull & Roemer, 2007).

5.3.4 Community Assessment Psychic Experiences-42 (CAPE-42; Stefanis et al., 2002)

The CAPE (Stefanis et al., 2002) is made up of 42 items that evaluate the Positive (20 items) and Negative (14 items) dimensions of lifetime psychotic symptoms and Depressive symptoms (8 items). It was developed from combining questions from the PDI-21 and PDI-40 (Peters, Joseph & Garety 1999b). The purpose of the CAPE is to measure lifetime psychotic experiences in the affective and non-affective domains (Mark & Touloupoulou, 2015). The CAPE is viewed as a measure based on the fully dimensional model of psychosis (Derosse & Karlsgodt, 2015). Both the PDIs have been used in clinical population (Ganji, Zakaryaei, Bagheri, Shayan & Varace, 2013), the CAPE was previously employed in a comparative study between outpatients and non-patient groups (Hanssen et al., 2003; Derosse & Karlsgodt, 2015). The CAPE is a two-dimensional scale; it measures frequency of psychosis experiences as well as distress associated with these experiences. The frequency of the experience is measured on a four-point scale from 'never' to 'nearly always'. If the participant chooses the response options 'Sometimes', 'Often' or 'Nearly always', they are asked to indicate on a four-point Likert scale 'how distressed they are by this experience' ranging from 'not distressed' to 'very distressed' determining the degree of distress. The frequency of occurrence of experiences is likely to be strongly associated with level of distress, portraying a linear dose-response pattern of association (Stefanis et al., 2002). The questions are styled in a 'do you ever feel/think' fashion to capture the continuous experiences throughout lifetime. The CAPE provides an overall score, a total score per dimension as well as a distress score. It investigates positive, negative and depressive symptoms. The CAPE-42 scores have demonstrated adequate psychometric qualities of internal consistency, temporal stability as well as different evidences of validity in research conducted with the general and clinical populations (Brenner et al., 2007; Verdoux & van Os, 2002; Pearce et al., 2017; Stefanis, et al.,

2002; Thewissen et al., 2008) and discriminative validity between non-clinical, clinical diagnosed with schizophrenia and clinical with affective and anxiety disorders (Hanssen et al., 2003). For example, the levels of internal consistency for all three dimensions of the CAPE-42 were superior to .77 (Brenner et al., 2007), Cronbach's alpha for the total score was .89 (Obiols et al., 2008 in Fonseca-Pedrero, Paino, Lemos-Giráldez & Muñiz, 2012). Further, the CAPE has been cross-validated showing to highly correlate with interview-based assessments of psychosis (Konings, Bak, Hanssen, van Os & Krabbendam, 2006).

5.4 Procedure

5.4.1 Ethical approval

This project was carried out in accordance with the Good Practice Guidelines for the Conduct of Psychological Research within the NHS (BPS, 2005). The project received review and ethical approval from NHS Lothian Research Ethics Committees (REC No:15-SS-0069 and R&D No:2015/0211), and received managerial approval from local Research and Development Departments in Lothian (see Appendix 1, 2 and 4 for approval letters). Furthermore, the researcher was given an Honorary Assistant Psychologist contract with NHS Lothian to ease access and contact (see Appendix 3). As part of the ethical approval, the researcher agreed to send participants' GPs letters informing them of their patient's participation in the study (see Appendix 14). University ethics were obtained for recruitment in the third sector (third sector ethics approval, Appendix 5).

5.4.2 Recruitment of participants

Recruitment took place between July 2015 and 30th of October 2016. The first base of recruitment was the Midlothian Joint mental health centre (see Table 1 for recruitment details). To assist with recruitment, all mental health professionals the researcher met were given a professionals' information sheet (see Appendix 8) and a recruitment flowchart (Appendix 9). Community mental health team (CMHT) staff or charity staff approached participants (see Appendix 6 and 7 for Participant information sheets) they deemed to fit the criteria, the researcher only contacted participants after receipt of a completed reply slip (Appendix 10) stating interest.

Table 1. *Details of recruitment*

Location	Sector	Service	N
West Lothian mental health advocacy project	3 rd sector	Day centre	18
West Lothian community mental health	NHS	CMHT	11
Bonnyrigg community mental health	NHS	CMHT	11
Craigroyston community mental health	NHS	CMHT	9
West Lothian hearing voices group	NHS	Community Group	5
Royal Edinburgh Hospital patient council	3 rd sector	Patient council	2
SAMH hearing voices group	3 rd sector	Charity Group	1
Caps advocacy	3 rd sector	MH support	1
Support in mind Scotland	3 rd sector	MH support	1
Barony contact point	3 rd sector	MH support	1

5.4.3 Capacity to consent

Consent forms were designed for each study (Appendix 12 and 13). The researcher went through each point of the consent form with the participant to make sure they were all clear and that the participant agreed with each point individually. Participants' capacity to consent was judged by experienced staff who knew them. If on the day of data collection staff or the researcher observed that the participant did not have the capacity to consent, the appointment was rescheduled or cancelled. If participants showed signs of distress, tiredness, or unwillingness to continue, data collection was halted. This only happened once when the participant was too distressed and did not want to continue data collection at which point their key worker came in to talk to them. The meeting was not rescheduled as the person was not well enough to participate in research. They only completed the demographics sheet and part of one questionnaire, therefore, their data was not included in the analysis.

5.4.4 NHS records

All participants agreed as part of their consent forms to their medical records being accessed to obtain information on their diagnosis and last admission to hospital. Participant records were accessed for diagnosis information. This was done for a few reasons; although it is acknowledged that CMHT workers will have a good

understanding of their clients' diagnosis, diagnoses may vary across time. In which case, the most recent diagnosis was taken. Participants are also likely to be aware of their diagnoses, nevertheless, it can be inappropriate and potentially alienating to request that participants provide details of their own diagnosis. Participants may not be aware of their diagnosis or in disagreement with it. Paper patient files were accessed in CMHTs that store them, if paper copies were not available, patient records were accessed using TRAK, an NHS database. On one occasion, the researcher learned on TRAK that one participant had organic psychosis after completion of the self-report study, this suggests that their experiences have a physiological cause above and beyond psycho-social vulnerabilities, their data was therefore excluded from the final analysis.

5.4.5 Confidentiality and anonymity

All information disclosed by participants and NHS staff before, during or after data collection was treated as strictly confidential. At no point did the researcher feel participants to be a threat to themselves or others, hence, no information was disclosed. All computerised information obtained from participants were anonymised with the use of participant numbers and pseudonyms. In line with the UK Data protection 1998 requirements, all information was kept in separate secure locations and password protected USB and computers.

5.4.6 Administering the questionnaires

Once informed consent was gained, participants completed the demographic information sheet (Appendix 17) and four self-report questionnaires (Appendix 18-21), this took approximately 45 minutes (see Appendix 22 for the duration of tasks). The order the questionnaires were presented in were alternated to reduce the effect of fatigue on one particular questionnaire (Lavrakas, 2008). The researcher told the participants they can take a break whenever they feel the need. The researcher offered to read the questions aloud making the process more interactive and conversational as well as reducing potential missing data and other biases (Lavrakas, 2008). Most participants preferred for the researcher to read the questions. On some rare occasions, in West Lothian participants did not come to the centres (Bathgate house, Strathbrock)

so they completed the questionnaires at home, where their community psychiatric nurse read out the questions. Once all self-report measures were completed, the participants were asked how they found the process, and whether they had any concerns or questions about the researcher or the questions. The researcher answered all questions to their satisfaction and gave all participants a debriefing sheet (see Appendix 23).

5.5 Power Analysis

Statistical power is the probability of detecting an effect where it exists and minimising Type II statistical error (incorrectly rejecting research hypothesis; Clark-Carter, 2010). A power analysis was conducted to estimate sample size needed for the study. For significance, an alpha of 0.05 is recommended in behavioural sciences to reduce Type I errors (mistakenly rejecting null hypothesis; Cohen, 1992). The likelihood of committing Type II errors is beta, with the power of a test equal to $1 - \beta$ (Clark-Carter, 2010). In the literature, it has been suggested that the bootstrap method is applicable to samples of 20-80 cases (Shrout & Bolger, 2002). Based on the power calculations suggested by Fritz and Mackinnon (2007), the bias-corrected bootstrap analysis requires 54 participants. This is based on estimates of effect sizes of the a and b mediation pathways from studies using similar variables (e.g. Darrell-Berry et al., 2017; Pilton et al., 2017; Robson & Mason, 2014). Recruitment was concluded at N=60 to manage time constraints attached to the completion of the thesis as well as difficulties in engaging other services to assist with recruitment.

5.6 Analytical Strategy

Data were analysed using SPSS for Windows (version 23). All variables met parametric assumptions, and descriptive statistics produced for demographic and clinical information. Pearson's product moment correlations were then conducted to investigate the univariate relationships between study variables. To test hypothesis 1 postulating that insecure attachment dimensions would predict variance in distress related to psychosis scores, simple regressions analyses were performed. Next, to address research question b, investigating whether emotion regulation and

metacognition will predict distress related to psychosis experiences, simple regressions were conducted to determine if total scores predicted distress related to psychosis. If total scores significantly predicted distress, multiple regression analyses were performed to investigate the subscales.

Preliminary analyses were carried out for the regression models to ensure that the data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. This was the first time these variables were investigated in relation to distress associated with psychosis experiences, thus an optimal order to enter the variables into regression models did not exist. To further investigate the associations when total scores were significant, a multiple regression analysis was conducted, incorporating all MCQ subscales simultaneously, to assess the association of each subscale, when holding constant, the effects of the other subscales. Simultaneous forced entry was therefore deemed most appropriate in this context. This was repeated for all outcome variables individually (distress related to positive, negative and depressive symptoms). This was also repeated with DERS subscales. As suggested by Cohen (1988), for regression analysis, an effect size of $R^2 = .02$ was considered small, $R^2 = .15$ medium and $R^2 = .35$ was deemed to be a large effect size, these effect sizes will be used for all regression models. The subscales that significantly predicted (at $p < .05$ level) the outcome were then taken forward to mediation models.

To address hypothesis 3, that emotion regulation difficulties and metacognitive difficulties mediate the relationship between insecure attachment dimensions and distress related to psychosis experiences, mediation analyses were conducted. Mediation analysis employs linear regression to determine whether a specific initial predictor (the independent variable) influences an outcome (the dependant variable) indirectly through an alternative factor (the mediator) (Field, 2013). Specifically, in this study, the mediation roles of those DERS and MCQ subscales identified in regression models are investigated in the relationships between insecure attachment (avoidance and anxiety) and distress related to psychosis experiences (positive, negative and depressive).

Multicollinearity was investigated prior to the mediation models to make sure it does not affect the estimation of the variables' partial relationships with the outcome variable (Hayes, 2013). The PROCESS macro is used to conduct the mediation and test the total, direct and indirect (via MCQ and DERS subscales) associations between attachment and distress (Hayes, 2018). Previously, Baron and Kenny's (1986) procedural approach to identifying mediation and moderation effects has been used, with more recent research suggesting that this method does not quantify the indirect effect efficiently, instead, it relies on null hypothesis testing to determine those indirect effects (Mackinnon, Lockwood & Williams, 2004; Field, 2013; Hayes, 2013). While the bootstrapping method does not assume that standard errors are normally distributed and it does not compromise statistical power with multiple tests (Preacher & Hayes, 2004). Furthermore, bootstrapping allows for greater confidence of results with small samples (Preacher & Hayes, 2004). The confidence interval (CI) for the indirect effect was a BCa bootstrapped CI based on 10,000 samples. If the 95% confidence interval does not include zero, then the effect is said to be significant at $p < .05$ (Preacher & Hayes, 2004). In this study, to reduce the probability of Type 1 errors, significance was set at $p < .01$, using 99% confidence intervals. Thus, the mediation effects were considered significant when the confidence interval did not include zero (Hayes, 2013). Mediation was deemed present if a statistically significant indirect effect of a mediator variable was found in the relationship between attachment dimension and distress associated with psychosis experiences. To determine the effect sizes of indirect effects, Preacher and Kelly (2011) suggest that completely standardised indirect effect beta values (ab_{cs}) can be used, therefore, Cohen's effect size standards are squared; $ab_{cs} = .01$ for a small effect, $ab_{cs} = .09$ medium and $ab_{cs} = .25$ large effect. These standards are applicable to all mediation analyses conducted in this chapter. Multiple mediation models were conducted only if significant mediators were identified for both emotion regulation and metacognition.

Traditionally, it is suggested that when the predictor and outcome variables are not significantly associated mediation and moderation analyses should not be conducted (Baron & Kenny, 1986). More recently however, this step is no longer perceived to be a precondition for mediation; there are a few reasons for this (Zhao, Lynch & Chen, 2010). First, the effect of the mediator on the outcome measure may depend on the values of the independent variable (Kraemer, Wilson, Fairburn & Agras,

2002). Second, the effect of the independent variable on the outcome may be dependent on multiple competing mechanisms that may cancel out the effect (Cerin & MacKinnon, 2008). Third, low statistical power may be the reason for the independent variable and the outcome to not be associated (Cerin & MacKinnon, 2008). Therefore, following theoretical justifications, and focusing on mediating effects even in the absence of a significant relationship between the predictor and outcome variables are recommended (Cerin & MacKinnon, 2008; Rucker, Preacher, Tormala & Petty, 2011). Recent literature provides further support for this suggestion, where focusing on indirect effects and their magnitude are recommended, regardless of a total effect (Hayes, 2009; MacKinnon, Krull & Lockwood, 2000; Rucker et al., 2011; Shrout & Bolger, 2002; Zhao et al., 2010). Therefore, mediation models will be conducted even in the absence of a total effect.

6. Study 1: Results

6.1 Data Screening and Preparation

Data was entered into SPSS IBM Statistics 23 for analysis. Prior to analysis, the PAM, the DERS, the CAPE-42 and the MCQ-30 subscales and total scores were examined to establish whether these variables met assumptions for parametric analysis. Homoscedasticity and linearity were also investigated, Normal Q-Q Plots and several scatterplots were examined and indicated consistency of spread through the distributions for all variables. Normal-theory significance tests were used to evaluate each variable. Skewness was used to determine how the data differed compared to a normal distribution and whether the data can be described as normally distributed or not (Field, 2013). All the data was screened for outliers; Tabachnick and Fidell (2013 p.77), suggest looking at the Z-scores to determine whether there are outliers, stating that scores ± 3.29 are to be considered outliers (also see Ghasemi & Zahediasl. 2012). Z-scores were calculated for all the data and no outliers were identified, the sample therefore remained at N=60. However, as per the CAPE questionnaire's design, people were not asked if they were distressed when they reported not having a specific psychosis experience, thus the sample size varies (from N= 57 to 60) for the distress variables. Cohen's (1988) criteria for Pearson's correlation coefficient effect size were used to determine the strengths of the effects (i.e. small, $r = .1$; medium, $r = .3$; large, $r = .5$). Associations were considered significant when the p-value was below .05.

6.2 Descriptive Statistics

Table 2 shows that the majority of scales had good internal consistency, with the exception of the attachment avoidance dimension. The Cronbach's alpha for this subscale was .49. In the literature the avoidance alpha is reported at .60 at its lowest (Owens et al., 2013) and .78 at its highest (Berry et al., 2009). Tavakol and Dennick (2011) suggest that if a poor alpha is due to poor correlation between items then those items should be discarded, items that have correlations approaching zero should be deleted. Further, the inter-reliability table attested to the three reverse items being the cause for the low reliability scores (see Appendix 25 for more details), as they are very close to zero and negatively correlated with other items of the same subscale. It is

possible that participants did not realise the items were reversed. Three items were thus removed, leaving a five item scale instead of eight. Reliability test was repeated and Cronbach's alpha for this five item subscale was .61.

Table 2. Descriptive statistics for all study variables (N=60)

	Alpha	Min	Max	Mean	SD	Skew	Kurtosis
PAM							
Anxiety	.74	0	3	.19	.65	.30	-.15
Avoidance	.61	0	3	.43	.66	.27	.01
MCQ							
Positive beliefs about worry	.85	6	23	1.85	1.97	.50	.88
Negative beliefs about thoughts of danger and uncontrollability	.90	6	24	4.25	1.83	.10	1.3
Cognitive confidence regarding attention and memory	.87	6	24	3.38	1.10	.56	.74
The need to control thoughts	.68	6	22	3.18	1.03	.23	.87
Cognitive self-consciousness	.81	6	24	5.87	1.95	.22	1
Total Metacognition skills score	.82	39	106	18.53	9.01	.33	.87
DERS							
Non-acceptance of emotional responses	.88	6	27	3.65	1.23	.72	.59
Difficulties engaging in goal directed behaviour	.83	5	25	5.33	1.60	.04	.88
Impulse control difficulties	.82	6	28	2	1.96	.3	1
Lack of emotional awareness	.71	6	26	7.12	1.09	.27	.47
Limited access to emotion regulation strategies	.88	8	38	9.02	1.04	.42	.80
Lack of emotional clarity	.71	5	22	0.72	1.89	.56	.34
Total Difficulties in ER score	.80	30	131	17.87	14.43	.38	.20
CAPE							
Positive symptoms weighted frequency	.89	1	1.05	.69		.34	.23
Positive dimension distress		.05	.25	.15		.53	.54
Depressive symptoms weighted frequency	.85	1	1.38	.99		.72	.3
Depressive dimension distress		.13	.75	.81		.21	.96
Negative symptoms weighted frequency	.80	1	1.93	.88		.04	.33
Negative dimension distress		.07	.43	.35		.55	.30
Sum of all dimensions		.42	.20	15.95	1	.43	.22
Sum of distress scores all dimensions		4	10	14.78	3	.22	.93
Symptoms frequency weighted total	.78	3	1.75	1.56		.40	.31
Distress weighted total		.20	1.34	1.20		.14	.94

Note. The revised avoidance subscale contains 5 items instead of 8. Positive symptom distress N= 57, Depressive symptom distress N=58, Negative symptom distress N= 57

6.2.1 Measures' internal consistency and norms

The norms of all scales were comparable to previous psychosis studies. For the Psychosis Attachment Measure (PAM; Berry et al., 2008), Cronbach's alpha for the five item avoidant scale was .61 (Min=0, max=3, $m = 1.43$, $SD = .66$). Average scores for anxiety ($m = 1.19$, $SD = .65$) and avoidance ($m = 1.43$, $SD = .66$) were in line with what was expected from previous clinical samples ($m = 1.03$, $SD = .56$ and $m = 1.32$, $SD = .56$, respectively; Kvrig et al., 2011). Owens (2010, unpublished thesis; Owens, Haddock & Berry, 2013) used the DERS in a clinical sample, the mean total scores are comparable to the current study's ($m = 87.87$, $SD = 24.43$, Owens $m = 87.69$, $SD = 25.76$). In relation to the metacognitions questionnaire (MCQ 30; Wells & Cartwright-Hutton, 2004), the mean scores obtained in this study were comparable to the subscale mean and standard deviations reported in Hill and colleagues (2012) study. The CAPE scores on the other hand were higher in this study when compared to the GROUP clinical participants ($N = 1119$; Place, Michon, Hulsbosch & Kroon, 2014 in Boumans et al., 2016). In their study, positive symptoms frequency ($m = .67$, $SD = .49$), distress related to positive symptoms ($m = 1.26$, $SD = .69$) and negative symptom frequency ($m = 1.02$, $SD = .53$) and distress ($m = 1.25$, $SD = .62$), depressive symptom frequency ($m = 1$, $SD = .58$) and distress ($m = 1.45$, $SD = .68$) see table 2 for means of the variables in the current study. No comparison tests were conducted to determine whether or not the differences between the current study findings and previous studies.

6.2.2 Correcting for multiple comparisons

Bonferroni's corrections are often used for multiple comparisons but this is a very conservative method (Pike, 2010). The Bonferroni correction controls for type I errors at the expense of meaningfully increasing the possibility of type II errors and not recognising a true effect as significant (Verhoeven, Simonsen & McIntyre, 2005). One way of dealing with this is to control for the proportion of significant results that are in fact type I errors – 'false discoveries' – designed to control the expected proportion of incorrectly rejecting null hypotheses. It adjusts the p-value based on a total number of tests performed to control for 'familywise errors' (Gelman, Hill & Yajima, 2012). In line with general convention, Table 3 presents significant correlations after Bonferroni correction for multiple comparisons. Nevertheless, as this

may increase the likelihood of Type II errors, false discovery rates were also investigated.

Controlling for the ‘false discovery rate’ (FDR; Benjamini & Hochberg, 1995), is less conservative than familywise errors when it comes to Type I errors but it is more powerful in detecting real effects. In practice, the FDR takes the most significant association and corrects it at ‘Bonferroni level’, meaning at the original alpha level divided by the number of tests conducted. The second most significant association is corrected at twice this level and so on for all variables considered. When one variable does not reach the significance level set, these are considered ‘false discoveries’ and are assumed to be noise. The Benjamini and Hochberg procedure (1995) has been predominantly used in research including a very large number of comparisons, or in situations where effects are less likely to be truly zero (Bender & Lange, 2001; Gelman et al., 2012), nevertheless, in their seminal paper to describe the method, the authors used examples with 11 to 15 comparisons. It is therefore considered appropriate to use the FDR adjustment in this study with 21 comparisons. Thus, if false discovery rate corrections were applied to the p-values obtained for this study’s associations, only non-acceptance of emotional responses and distress associated with negative symptoms would not be significant at the adjusted level ($r=.26$, adjusted $p=.08$). Adjusted p-values are arbitrary as they are not estimates of the probability (p) of anything (McDonald, 2014). In light of this, unadjusted (‘raw’) p-values are presented in the rest of this chapter.

Table 3. *Associations between study variables (Bonferroni correction)*

		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	PAM	.44	.40	.39	.41	.43	.36	.52*	.34	.25	.04	-.08	.34	.02	.25	.14	.16	.44	.27	.40	.21
2		1	.58*	.62*	.63*	.57*	.28	.70*	.64*	.55*	.32	-.06	.63*	.34	.60*	.22	.31	.50*	.49*	.26	.24
3	MCQ		1	.39	.40	.60*	.35	.71*	.43	.37	.22	-.32	.32	.09	.32	.15	.11	.30	.24	-.02	-.05
4				1	.62*	.60*	.51*	.85*	.59*	.61*	.46*	.02	.70*	.60*	.70*	.44	.49*	.55*	.59*	.32	.35
5					1	.55*	.30	.76*	.37	.49	.35	.09	.54*	.35	.54*	.41	.40	.53*	.40	.53*	.32
6						1	.41	.83*	.51*	.37	.26	-.07	.49*	.47*	.49*	.44	.47*	.49*	.49*	.21	.21
7							1	.68*	.20	.26	.15	-.34	.23	.05	.23	.34	.26	.38	.37	.12	.12
8								1	.56*	.56*	.38	-.16	.61*	.41	.61*	.47	.46	.59*	.55*	.31	.25
9	DERS								1	.63*	.62*	-.08	.85*	.48*	.85*	.30	.30	.60*	.63*	.20	.26
10										1	.47*	-.18	.73*	.34	.73*	.24	.19	.57*	.53*	.39	.37
11											1	.18	.67*	.48*	.80*	.40	.45	.48*	.58*	.23	.34
12												1	.23	.36	.23	.0	.21	.04	.16	.15	.33
13													1	.49*	.90*	.41	.45	.71*	.77*	.42	.53*
14														1	.69*	.31	.42	.43	.57*	.22	.41
15															1	.40	.47	.69*	.78*	.39	.53*
16	CAPE															1	.82*	.60*	.49*	.43	.12
17																	1	.55*	.62*	.48*	.38
18																		1	.81*	.61*	.37
19																			1	.45	.63*
20																				1	.64*
21																					1

Note *Significant results after Bonferroni correction for multiple comparisons (1) Attachment avoidance, (2) Attachment anxiety, (3) Positive beliefs about worry, (4) Negative beliefs about uncontrollability/danger of worry, (5) Cognitive confidence, (6) Need for control, (7) Cognitive self-consciousness, (8) Total metacognitive score, (9) Non-accept of emotional responses, (10) Difficulties engaging in goal directed behaviour, (11) Impulse control difficulties, (12) Lack of emotional awareness, (13) Limited access to ER strategies, (14) Lack of emotional clarity, (15) Total difficulties in ER, (16) Positive symptoms of psychosis weighted frequency, (17) Positive dimension distress score, (18) Depressive symptoms of psychosis weighted frequency, (19) Depressive dimension distress score, (20) Negative symptoms of psychosis weighted frequency, (21) Negative dimension distress score

6.3 Relationships Among Study Variables

6.3.1 Measures' inter-correlations and norms

Table 4 shows Pearson's correlations coefficients between all study variables. *Attachment anxiety* dimension and the 5-item *avoidance subscales* (PAM; Berry et al., 2008) were positively inter-correlated with a medium effect ($r=.44$, $p<.001$), higher than previous research based on the 8-item scale ($r=.34$, $p<.05$; Darrell-Berry et al., 2017, $r=.30$, $p<.01$, Kvrđic et al., 2011).

The difficulties in emotion regulation (DERS; Gratz & Roemer, 2004) subscales were significantly inter-correlated (r ranged from .34-.69). There was a high correlation between *limited access to emotion regulation strategies and non-acceptance of emotional responses* with a large effect size ($r=.79$, $p<.001$). Recent psychometric analyses of the DERS suggested the removal of the *lack of emotional awareness* subscale, on the basis that it is comprised only of reverse coded items and associates poorly with the other latent factors, therefore measuring a different construct (Bardeen, Fergus & Orcutt, 2012; Fairholme et al., 2013; Osborne et al., 2017). In this study the *lack of emotional awareness* subscale was only significantly correlated with the *lack of emotional clarity* subscale ($r=.36$, $p<.01$) and no other DERS subscales. Both Bardeen (et al., 2012) and Osborne (et al., 2017) recommend excluding the awareness items when calculating the total DERS score. Nevertheless, the internal consistency for total DERS including the *lack of emotional awareness* subscale was satisfactory ($\alpha=.80$) therefore the *lack of emotional awareness* subscale was retained in the total score.

The metacognition questionnaire subscales were all inter-correlated in line with previous studies (Hill et al., 2012; Wells & Cartwright-Hutton, 2004). In their study, Hill and colleagues (2012) did not find a significant association between *cognitive confidence* and *cognitive self-consciousness* ($r=.29$, $p>.05$) this relationship was significant in the current study ($r=.30$, $p=.02$).

Stefanis and colleagues (2002) validated the CAPE with a non-clinical sample, they found that the symptom frequency and distress scores were strongly associated;

specifically, positive symptom frequency was strongly associated with distress ($r=.67$, $p<.05$), so were negative symptom frequency and negative distress scores ($r=.73$, $p<.05$) and depressive symptom frequency and depressive distress scores ($r=.74$, $p<.05$). In this study, the associations were stronger between symptom frequency and distress associated with the same symptom with positive ($r=.82$, $p<.001$), negative ($r=.64$, $p<.001$) and depressive ($r=.81$, $p<.001$). The associations have linear dose-response patterns in both studies. It is possible that given that the sample of the current study is clinical, the participants experience higher levels of distress and frequency.

6.3.2 Relationships between attachment dimensions and symptom frequency

Pearson's correlation coefficients were used to explore relationships between attachment dimensions and the CAPE variables. Both attachment dimensions (*anxiety* and *avoidance*) were associated with *negative* and *depressive symptoms frequency*, however neither *attachment dimension* were associated with *positive symptom frequency* (as shown in table 4). *Attachment anxiety* was significantly associated with *negative symptom frequency* ($r=.26$, $p=.048$; small effect) and *depressive symptom frequency* ($r=.50$, $p<.001$; large effect). *Attachment avoidance* was associated with *negative symptom frequency* ($r=.41$, $p=.001$; medium effect) and *depressive symptom frequency* ($r=.44$, $p<.001$; medium effect). *Positive symptom frequency* did not have a significant association with either *attachment anxiety* ($r=.22$, $p=.09$) or *avoidance* ($r=.14$, $p=.29$).

6.3.3 Relationships between attachment dimensions and symptom-related distress

Attachment anxiety was significantly associated with *distress related to positive symptoms* ($r=.31$, $p=.02$; medium effect), and *distress related to depressive symptom* ($r=.49$, $p<.001$; medium effect). *Attachment avoidance* was only significantly associated with *distress related to depressive symptoms* ($r=.27$, $p=.04$; small effect). There were no significant relationship between *attachment dimensions* and *distress*

related to negative symptoms scores (anxiety, $r=.24$, $p=.08$; avoidance, $r=.21$, $p=.12$). See table 4 for all associations between attachment dimensions and psychosis scores.

Table 4. *Associations between insecure attachment dimensions and psychosis dimensions (N=60)*

	2	3	4	5	6	7	8
1 Attachment avoidance	.44**	.14	.16	.41**	.21	.44**	.27*
2 Attachment anxiety	-	.22	.31*	.26*	.24	.50**	.49**
3 Positive symptoms frequency		-	.82**	.43**	.12	.60**	.49**
4 Positive symptoms distress (N=57)			-	.48**	.38**	.55**	.62**
5 Negative symptoms frequency				-	.64**	.61**	.45**
6 Negative symptoms distress (N=57)					-	.37**	.63**
7 Depressive symptom frequency						-	.81**
8 Depressive symptom distress (N=58)							-

** $p < 0.01$, * $p < .05$

6.3.4 Relationships between attachment dimensions, metacognition and distress related to psychosis

Pearson's correlations were conducted to investigate the relationships between all the study variables (see Table 5). All MCQ subscales were positively associated with attachment dimensions, the strongest correlation was between the *total metacognitive beliefs* score and *attachment anxiety* ($r=.70$, $p<.001$; large effect). This indicates that anxiously attached people have increased metacognitive difficulties and vice versa.

Further, the *need for control* subscale was significantly associated with *distress related to positive symptom distress* ($r=.47$, $p<.001$; medium effect) and *distress related to depressive symptoms* ($r=.49$, $p<.001$; medium effect) but not with *distress related to negative symptoms* ($r=.21$, $p=.13$). Significant associations were established between all metacognition subscales and *distress related to positive symptoms* except

for *positive beliefs about the uncontrollability and danger of thought* ($r=.11$, $p=.42$) and *cognitive self-consciousness* ($r=.26$, $p=.05$). Distress associated with *negative symptoms* scores were only significantly associated with *negative beliefs about the uncontrollability and danger of thought* scores ($r=.35$, $p=.01$; medium effect) and *cognitive confidence* ($r=.32$, $p=.01$; medium effect). Distress related to *depressive symptoms* was significantly associated with all metacognition subscales except for *positive beliefs* ($r=.24$, $p=.07$). All associations are reported in table 5.

6.3.5 Relationships between attachment dimensions, emotion regulation and distress related to psychosis

All DERS subscales were significantly associated with *attachment anxiety*, positive associations ranged from $r=.32$ (*Impulse control difficulties*) to $r=.64$ (*Non-acceptance of emotional responses*), except for *lack of emotional awareness* ($r=-.06$, $p=.63$). This indicates that attachment anxiety is associated with increased difficulties in emotion regulation. *Attachment avoidance* however was significantly associated only with *limited access to emotion regulation strategies* ($r=.34$, $p=.01$; medium effect) and *non-acceptance of emotions* ($r=.34$, $p=.01$; medium effect).

All DERS subscales were significantly positively associated with *distress related to positive symptoms*, except for *difficulties in engaging in goal directed behaviour* ($r=.19$, $p=.17$) and *lack of emotional awareness* ($r=.21$, $p=.12$). There were positive significant association between all emotion regulation dimensions and *distress associated with negative symptoms*. This indicates that increased emotion regulation difficulties are associated with greater distress related to negative symptoms. Finally, all DERS subscales were significantly associated with *distress related to depressive symptoms* except for *lack of emotional awareness* ($r=.16$, $p=.25$).

Table 5. Associations between study variables

		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	PAM	.44**	.40**	.39**	.41**	.43**	.36**	.52**	.34**	.25	.04	-.08	.34**	.02	.25	.14	.16	.44**	.27*	.40**	.21
2		1	.58**	.62**	.63**	.57**	.28*	.70**	.64**	.55**	.32*	-.06	.63**	.34**	.60**	.22	.31*	.50**	.49**	.26*	.24
3	MCQ		1	.39**	.40**	.60**	.35**	.71**	.43**	.37**	.22	-.32*	.32**	.09	.32*	.15	.11	.3*	.24	-.02	-.05
4				1	.62**	.60**	.51**	.85**	.59**	.61**	.46**	.02	.70**	.60**	.70**	.44**	.49**	.55**	.59**	.32*	.35**
5					1	.55**	.30*	.76**	.37**	.49**	.35**	.09	.54**	.35**	.54**	.41**	.40**	.53**	.40**	.53**	.32*
6						1	.41**	.83**	.51**	.37**	.26*	-.07	.49**	.47**	.49**	.44**	.47**	.49**	.49**	.21	.21
7							1	.68**	.20	.26*	.15	-.34**	.23	.05	.23	.34**	.26	.38**	.37**	.12	.12
8								1	.56**	.56**	.38**	-.16	.61**	.41**	.61**	.47**	.46**	.59**	.55**	.31*	.25
9	DERS								1	.63**	.62**	-.08	.85**	.48**	.85**	.30*	.30*	.60**	.63**	.20	.26
10										1	.47**	-.18	.73**	.34**	.73**	.24	.19	.57**	.53**	.39**	.37**
11											1	.18	.67**	.48**	.80**	.40**	.45**	.48**	.58**	.23	.34*
12												1	.23	.36**	.23	.0	.21	.04	.16	.15	.33*
13													1	.49**	.90**	.41**	.45**	.71**	.77**	.42**	.53**
14														1	.69**	.31*	.42**	.43**	.57**	.22	.41**
15															1	.40**	.47**	.69**	.78**	.39**	.53**
16	CAPE															1	.82**	.60**	.49**	.43**	.12
17																	1	.55**	.62**	.48**	.38**
18																		1	.81**	.61**	.37**
19																			1	.45**	.63**
20																				1	.64**
21																					1

Note **p< 0.01, *p<.05 (1) Attachment avoidance, (2) Attachment anxiety, (3) Positive beliefs about worry, (4) Negative beliefs about uncontrollability/danger of worry, (5) Cognitive confidence, (6) Need for control, (7) Cognitive self-consciousness, (8) Total metacognitive score, (9) Non-accept of emotional responses, (10) Difficulties engaging in goal directed behaviour, (11) Impulse control difficulties, (12) Lack of emotional awareness, (13) Limited access to ER strategies, (14) Lack of emotional clarity, (15) Total difficulties in ER, (16) Positive symptoms of psychosis weighted frequency, (17) Positive dimension distress score, (18) Depressive symptoms of psychosis weighted frequency, (19) Depressive dimension distress score, (20) Negative symptoms of psychosis weighted frequency, (21) Negative dimension distress score

6.4 Attachment Dimensions as Predictors of Distress Related to Psychosis Experience

Attachment anxiety significantly predicted *distress related to positive symptoms* ($F(1,55)=5.71, p=.02$, adjusted $R^2 = .08$, $\beta = .31$, CIs $[.12, .67]$, $p=.02$), and *distress related to depressive symptoms* ($F(1,56)=17.45, p<.001$, adjusted $R^2 = .22$, $\beta = .49$, CIs $[.39, 1.1]$ $p<.001$). No relationship was found for *distress related to negative symptoms* ($F(1,55)=3.25, \beta = .24$, CIs $[-.02, .57]$, $p=.08$). *Attachment avoidance* on the other hand, significantly predicted *distress related to depressive symptoms* in psychosis ($F(1,56)=4.39, p=.041$, adjusted $R^2 = .07$, $\beta = .27$, CIs $[.04, .75]$, $p=.04$) but not *distress related to positive symptoms* ($F(1,55)=1.42, \beta = .16$, CIs $[-.16, .57]$, $p=.24$) nor *distress related to negative symptoms* ($F(1,55)=2.54, \beta = .21$, CIs $[-.02, .45]$, $p=.12$). Hypothesis 1a was accepted as attachment anxiety significantly predicted distress related to positive symptoms and attachment avoidance did not. Hypothesis 1b was also accepted as both insecure attachment dimensions significantly predicted increased distress related to depressive symptoms in psychosis.

6.5 Investigation of Distress Related to Positive Symptoms

6.5.1 Metacognition as a predictor of distress related to positive symptoms

A linear regression was run to investigate the effect of *metacognition difficulties* on *distress related to positive symptoms*. Both the histogram and the normal P-P plot of standardised residuals suggested normally distributed errors, and a scatterplot of standardized predicted values confirmed that the data were homoscedastic and linear. Multicollinearity in regression models was assessed by looking at the variance inflation factor (VIF) values did not exceed 5 (Heiberger & Holland, 2015) and all tolerance statistics were above 0.1 (Tabachnick & Fidell, 2013). There were no studentized deleted residuals greater than ± 3 standard deviations and no values for Cook's distance above 1. Histograms and the normal P-P plots of standardised residuals suggested normally distributed errors, a scatterplot of standardised predicted values confirmed that the data were homoscedastic and linear. The analysis of standardised residuals revealed no outliers (Std. residual min. = -1.4 and Std. residual max = 2.39). Overall, the data did not violate the regression model assumptions. The linear regression model statistically significantly predicted *distress related to positive symptoms*, $F(55,1)=14.64$, $p<.001$, adjusted $R^2=.2$ a medium effect size, $\beta=.46$, $p<.001$, CI [.00, .03]. The subscales of the metacognition questionnaire are therefore investigated in more detail.

6.5.2 Metacognition subscale scores as predictors of distress related to positive symptoms

To test hypothesis 2a, all MCQ subscales were simultaneously tested to determine which subscales predict *distress related to positive symptoms* when holding constant the effects of other subscales. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. Analysis of standardised residuals revealed no outliers (Std. residual min = -2 and Std. residual max = 2.4). The assumption of independent errors was also met (Durbin-Watson test value was 2.11).

The multiple regression model statistically significantly predicted *distress related to positive symptoms*, $F(5,51)=5.11$, $p=.001$, adjusted $R^2 = .27$ a medium effect size. The only significant predictor was *need for control* ($\beta= .39$, $p=.03$). This suggests

that a higher need to control thoughts predicted greater distress associated with positive symptoms. Regression coefficients and confidence intervals can be found in Table 6. Only *need for control* will therefore be carried on to the mediation analysis. This lends partial support to for hypothesis 2a as *need for control* was a significant predictor of *distress related to positive symptoms* but *negative beliefs about the danger and uncontrollability of thoughts* was not.

Table 6. *Summary of multiple regression analysis predicting distress associated with positive symptoms scores with metacognition difficulties (N=57)*

	Unstandardised Beta (B)	β	SE	95% CI for B	
				LB	UB
Positive beliefs	-.04	-.27	.02	-.09	.00
Negative beliefs	.03	.24	.02	-.02	.08
Cognitive confidence	.02	.14	.02	-.03	.07
Need for control	.08	.39*	.04	.01	.15
Cognitive self-confidence	.01	.04	.02	-.04	.05

**p< 0.01, *p<.05

6.5.3 Need for control as a mediating variable between attachment dimensions and distress related to positive symptoms

A simple mediation analysis was conducted to test if the relationship between *attachment anxiety* (predictor) and *distress related to positive symptoms* (outcome) is mediated by *need for control* (see Figure 7). It was found that *attachment anxiety* had an indirect effect on *distress related to positive symptoms* through *need for control*; $b=.30$, $SE=.14$ BCa 99% CI [.05, .74] ($ab_{cs}=.25$, large effect). The direct pathway from *attachment anxiety* to *distress related to positive symptoms* was not significant ($b=.07$, $SE=.17$ BCa 99% CI [-.39, .54]).

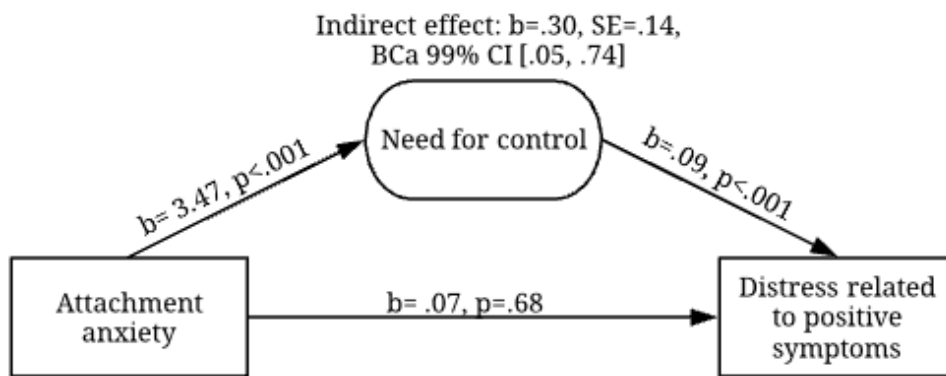


Figure 7. Simple mediation analysis investigating the relationship between attachment anxiety and distress related to positive symptoms through need for control

Another simple mediation analysis was conducted to test if the relationship between *attachment avoidance* (predictor) and *distress related to positive symptoms* (outcome) is mediated by *need for control* (see Figure 8). *Attachment avoidance* did not significantly predict *distress related to positive (or negative) symptoms*, however, in line with recent research (see 5.6 for more detail) indirect effects are focused on. It was found that *attachment avoidance* had an indirect effect on *distress related to positive symptoms* through *need for control*; $b = .24, SE = .1 \text{ BCa } 99\% \text{ CI } [.01, .52]$ ($ab_{cs} = .20$, medium effect). The direct pathway from *attachment avoidance* to *distress related to positive symptoms* was not significant ($b = -.06, SE = .16 \text{ BCa } 99\% \text{ CI } [-.48, .45]$).

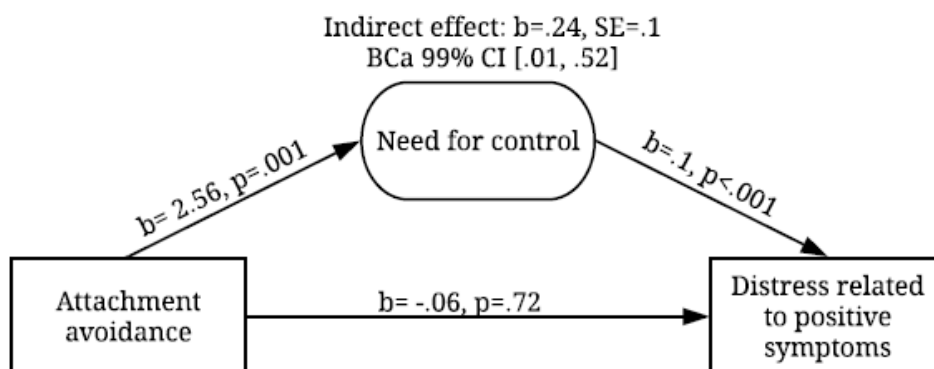


Figure 8. Simple mediation analysis investigating the relationship between attachment avoidance and distress related to positive symptoms through need for control

6.5.4 Difficulties in emotion regulation as a predictor of distress related to positive symptoms

A linear regression was run to understand the effect of *emotion regulation difficulties* on *distress related to positive symptoms*. All DERS subscales were simultaneously entered in a linear regression to explore which subscales predict *distress related to negative symptoms* when holding constant the effects of other subscales. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. The analysis of standardised residuals revealed no outliers (Std. residual min. = -1.67 and Std. residual max = 2.26). The linear regression model statistically significantly predicted *distress related to positive symptoms*, $F(55,1)=13.48$, $p=.001$, adjusted $R^2=.18$ a medium effect size, $\beta=.44$, $p=.001$, CI [.01, .02]. The subscales of the difficulties in emotion regulation questionnaire are therefore investigated in more detail.

6.5.5 Difficulties in emotion regulation subscale scores as predictors of distress related to positive symptoms

All DERS subscales were simultaneously tested in a linear regression to determine which subscales predict *distress related to positive symptoms* when holding constant the effects of other subscales. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. Analysis of standardised residuals revealed no outliers (Std. residual min = -1.77 and Std. residual max = 2.4). The assumption of independence was also met (Durbin-Watson test value was 2.13).

The multiple regression model statistically significantly predicted *distress related to positive symptoms*, $F(6,50)=3.81$, $p<.001$, adjusted $R^2 = .23$ a small effect size. Only *limited access to emotion regulation* significantly predicted *distress related to positive symptoms* ($\beta= .48$, $p=.04$). Regression coefficients and confidence intervals can be found in Table 7. *Limited access to emotion regulation strategies* will therefore be carried on to mediation models.

Table 7. *Summary of multiple regression analysis predicting distress scores related to positive symptoms with emotion regulation subscales (N=57)*

	Unstandardised Beta (B)	β	SE	LB	95% CI for B UB
Non-acceptance	-.02	-.18	.03	-.08	.03
Goals	-.02	-.15	.02	-.07	.03
Impulse control	.04	.22	.03	-.02	.09
Awareness	.01	.06	.02	-.04	.05
Limited access to strategies	.04	.44*	.02	.0	.09
Clarity	.04	.21	.03	-.02	.11

**p< 0.01, *p<.05

6.5.6 Limited access to emotion regulation strategies as a mediating variable between attachment dimensions and distress related to positive symptoms

A simple mediation analysis was conducted to test if the relationship between *attachment anxiety* (predictor) and *distress related to positive symptoms* (outcome) is mediated by *limited access to emotion regulation strategies*. It was found that there was no indirect effect of *attachment anxiety* on *distress related to positive symptoms* via *limited access to emotion regulation strategies*; $b=.32$, $SE=.14$ Bca 99% CI [-0.00, .74].

Another simple mediation analysis was conducted to test if the relationship between *attachment avoidance* (predictor) and *distress related to positive symptoms* (outcome) is mediated by *limited access to emotion regulation strategies*. It was found that there was no indirect effect of *attachment avoidance* on *distress related to positive symptoms* via *limited access to emotion regulation strategies*; $b=.18$, $SE=.07$ Bca 99% CI [-0.07, .36]. *Limited access to emotion regulation strategies* was therefore not tested alongside *need for control* in a multiple mediation model.

This section investigated distress related to positive symptoms of psychosis. *Total metacognition* scores significantly predicted *distress related to positive symptoms*, thus, subscales were investigated. *Need for control* was the only predictor of *distress related to positive symptoms*, it was therefore carried into mediation models. It was found that both *attachment avoidance* and *anxiety* had an indirect effect

on *distress related to positive symptoms* through *need for control*. *Total emotion regulation* scores also predicted *distress related to psychosis symptoms*, thus the DERS subscales were also investigated in more detail. *Limited access to emotion regulation strategies* was the only significant predictor of distress related to positive symptoms of psychosis. However, when *limited access to emotion regulation strategies* was carried onto mediation models it was not a significant mediator. No multiple mediation models were conducted.

6.6 Investigation of Distress Related to Negative Symptoms

6.6.1 Metacognition as a predictor of distress related to negative symptoms

A linear regression was run to understand the effect of *metacognition difficulties* on *distress related to negative symptoms*. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. The analysis of standardised residuals revealed no outliers (Std. residual min. = -.94 and Std. residual max = 2.9). It was found that linear regression model did not significantly predict *distress related to negative symptoms*, $F(55,1)=3.76$, $\beta=.25$ $p=.06$. The investigation of the relationship between *metacognitive difficulties* and *distress related to negative symptoms* was not taken further.

6.6.2 Difficulties in regulating emotions as a predictor of distress related to negative symptoms

A linear regression was run to understand the effect of *emotion regulation difficulties* on *distress related to negative symptoms*. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. The analysis of standardised residuals revealed no outliers (Std. residual min. = -2 and Std. residual max = 2.7). The linear regression model statistically significantly predicted *distress related to negative symptoms*, $F(55,1)=16.26$, $p<.001$, adjusted $R^2=.21$ a medium effect size, $\beta=.48$, $p<.001$, CI [.01, .02]. The subscales of the difficulties in emotion regulation questionnaire will therefore be investigated in more detail.

6.6.3 Difficulties in regulating emotions subscale scores as predictors of distress related to negative symptoms

All DERS subscales were simultaneously tested to determine which subscales predict *distress related to negative symptoms* when holding constant the effects of other subscales. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. Analysis of standardised residuals revealed no outliers (Std. residual min = -2 and Std. residual max = 2.46). The assumption of independence was also met, with a Durbin-

Watson test value of 1.91. There were no studentized deleted residuals greater than ± 3 standard deviations no values for Cook's distance above 1. Overall, the data did not violate any assumptions and was therefore suitable for regression analysis.

The multiple regression model significantly predicted *distress associated with negative symptoms*, $F(6,50)=5.51$, $p<.001$, adjusted $R^2 = .39$ a medium to large effect size. This lends support to the subscales of emotion regulation difficulties as a significant predictor of negative distress associated with psychosis. Three variables significantly contributed to the model; *non-acceptance of emotional responses* ($\beta=-.40$, $p=.03$), *limited access to emotion regulation strategies* ($\beta=.72$, $p<.001$) and *lack of awareness* ($\beta=.30$, $p=.02$). These variables will be investigated in the mediation analyses. Regression coefficients and confidence intervals can be found in table 8.

Table 8. *Summary of multiple regression analysis predicting distress related to negative symptoms with emotion regulation subscales (N=57)*

	Unstandardised Beta (B)	β	SE	95% CI for B	
				LB	UB
Non-acceptance	-.05	-.40*	.02	-.09	-.00
Goals	.02	.17	.02	-.02	.06
Impulse control	-.01	-.09	.02	-.06	.03
Awareness	.04	.30*	.02	.01	.08
Limited access to strategies	.06	.72**	.02	.03	.1
Clarity	.02	.13	.03	-.03	.07

** $p<0.01$, * $p<.05$

6.6.4 Emotion regulation difficulties as mediating variables between attachment dimensions and distress related to negative symptoms

Investigating three subscales in one mediation model would have strained the power of the analysis given the sample size of the study. Thus, three simple mediation analysis were undertaken to test for the pattern of relations between *attachment anxiety* and *distress related to negative symptoms* through *awareness*, *non-acceptance* and *limited access to emotion regulation strategies*. It was found that *attachment anxiety* had an indirect effect on *distress related to negative symptoms* through *limited access to emotion regulation strategies*; $b=.42$, $SE=.13$ Bca 99% CI [.13, .82] ($ab_{cs}=.30$, large effect) (see figure 9) but not through *awareness* ($b=-.02$ $SE=.06$ Bca 99% CI [-.22,

.17]), nor *non-acceptance* ($b=.12$, $SE=.13$ Bca 99% CI $[-.22, .5]$). The direct pathway from *attachment anxiety* to *distress related to negative symptoms* was not significant ($b=.26$, $SE=.14$ Bca 99% CI $[-.12, .64]$).

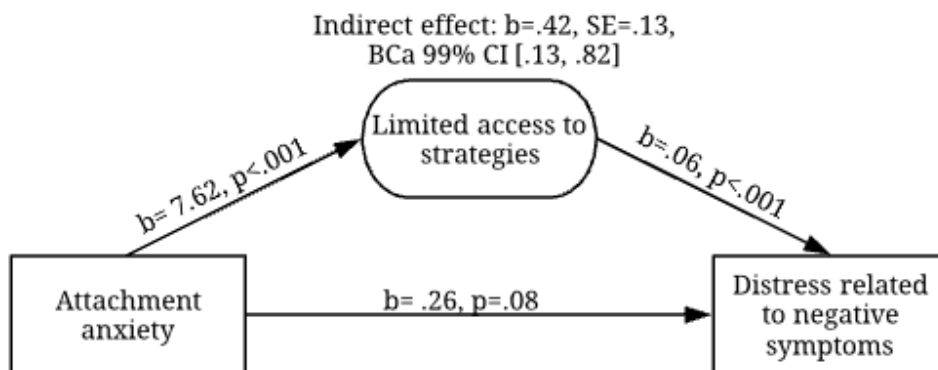


Figure 9. Simple mediation analysis investigating the relationship between attachment anxiety and distress related to negative symptoms through limited access to emotion regulation strategies

Simple mediation models were also conducted to test for the pattern of relations between *attachment avoidance* and *distress related to negative symptoms* through *awareness*, *non-acceptance* and *limited access to emotion regulation strategies*. It was found that there was no indirect effect of *attachment avoidance* on *distress related to negative symptoms* via *limited access to emotion regulation strategies*; $b=.19$, $SE=.13$ Bca 99% CI $[-.06, .55]$, *non-acceptance*; $b=.08$, $SE=.07$ Bca 99% CI $[-.08, .34]$, nor *awareness* $b=-.03$, $SE=.07$ Bca 99% CI $[-.28, .12]$.

In sum, metacognition did not significantly predict distress related to negative symptoms in psychosis. *Attachment anxiety* was significantly and indirectly associated with *distress related to negative symptoms* through *limited access to emotion regulation strategies*. *Attachment avoidance* was not a significant direct or indirect predictor of *distress related to negative symptoms*.

6.7 Investigation of Distress Related to Depressive Symptoms

6.7.1 Metacognition as a predictor of distress related to depressive symptoms

A linear regression was run to understand the effect of *metacognition difficulties* on *distress related to depressive symptoms*. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. The analysis of standardised residuals revealed no outliers (Std. residual min. = -2.12 and Std. residual max = 1.89). The linear regression model statistically significantly predicted *distress related to depressive symptoms*, $F(56,1)=24.24$, $p<.001$, adjusted $R^2=.29$ a medium effect size, $\beta=.55$, $p<.001$, CI [.02, .04]. The subscales of the metacognition questionnaire will therefore be investigated in more detail.

6.7.2 Metacognition subscale scores as predictors of distress related to depressive symptoms

A multiple regression with all MCQ subscales was carried out to determine the predictive value of each subscale when holding constant the effect of the other subscales (see Table 9). The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. Analysis of standardised residuals revealed no outliers (Std. residual min = -1.9 and Std. residual max = 1.7). The assumption of independence was also met, with a Durbin-Watson test value of 2.17. Overall, the data did not violate any assumptions and was therefore suitable for regression analysis.

The multiple regression model significantly predicted *distress related to psychosis symptoms*, $F(5,52)=6.15$, $p<.001$, adjusted $R^2 = .31$ a medium to large effect size. Regression coefficients and confidence intervals can be found in table 8. The only variable that significantly contributed to the model was *negative beliefs about the uncontrollability and danger of thoughts* ($\beta=.41$, $p=.02$). This variable is carried on to the mediation models.

Table 9. Summary of multiple regression analysis predicting distress related to depressive symptoms scores with metacognition difficulties (N=58)

	Unstandardised Beta (B)	β	SE	95% CI for B	
				LB	UB
Positive beliefs	-.02	-.09	.03	-.07	.04
Negative beliefs	.07	.41*	.03	.01	.13
Cognitive confidence	.01	.04	.03	-.05	.06
Need for control	.05	.22	.04	-.03	.13
Cognitive self-confidence	.02	.09	.03	-.03	.07

**p< 0.01, *p<.05

6.7.3 Negative beliefs as a mediating variable between attachment dimensions and distress related to depressive symptoms

A simple mediation analysis was conducted to test if the relationship between *attachment anxiety* (predictor) and *distress related to depressive symptoms* (outcome) is mediated by *negative beliefs* (see Figure 10). It was found that *attachment anxiety* had an indirect effect on *distress related to depressive symptoms* through *negative beliefs*; $b=.41$, $SE=.15$ Bca 99% CI [.08, .88]. ($ab_{cs}=.28$, large effect). The direct pathway from *attachment anxiety* to *distress related to depressive symptoms* was not significant ($b=.31$, $SE=.2$ Bca 99% CI [-.22, .84]).

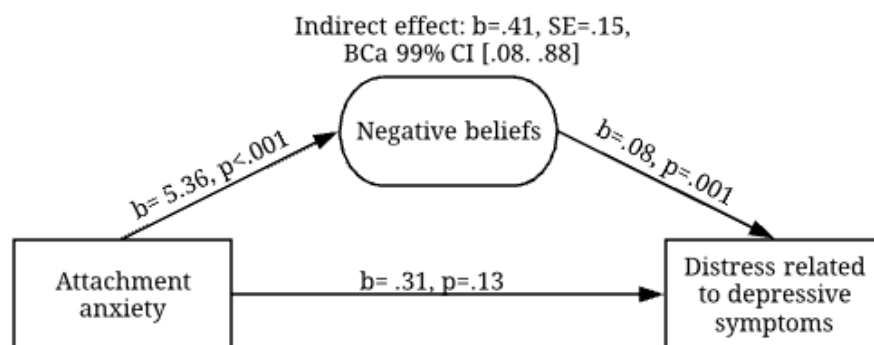


Figure 10. Simple mediation analysis investigating the relationship between attachment anxiety and distress related to depressive symptoms through negative beliefs

Another simple mediation analysis was conducted to test if the relationship between *attachment avoidance* (predictor) and *distress related to depressive symptoms* (outcome) is mediated by *negative beliefs* (see Figure 11). It was found that *attachment*

avoidance had an indirect effect on *distress related to depressive symptoms* through *negative beliefs*; $b=.32$, $SE=.11$ Bca 99% CI [.05, .66] ($ab_{cs}=.22$, medium effect). The direct pathway from *attachment avoidance* to *distress related to depressive symptoms* was not significant ($b=.07$, $SE=.19$ Bca 99% CI [-.38, .53]).

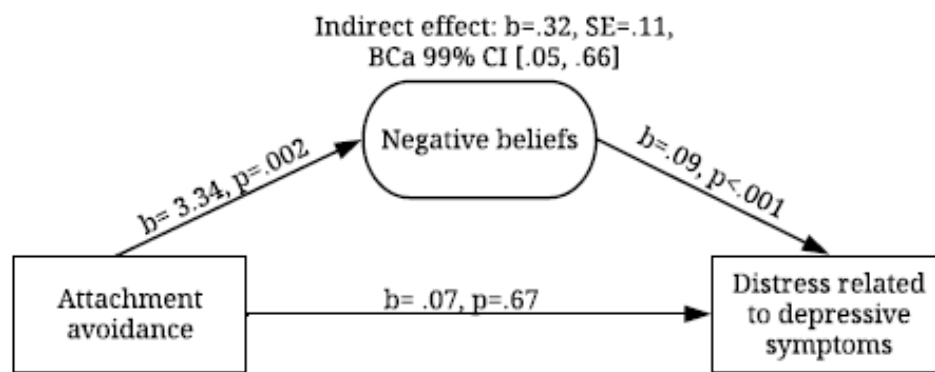


Figure 11. Simple mediation analysis investigating the relationship between attachment avoidance and distress related to depressive symptoms through negative beliefs

6.7.4 Difficulties in regulating emotions as a predictor of distress related to depressive symptoms

A linear regression was run to understand the effect of *emotion regulation difficulties* on *distress related to depressive symptoms*. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. The analysis of standardised residuals revealed no outliers (Std. residual min. = -2.27 and Std. residual max = 2.06). The linear regression model statistically significantly predicted *distress related to depressive symptoms*, $F(56,1)=82$, $p<.001$, adjusted $R^2=.59$ a medium effect size, $\beta=.77$, $p<.001$, CI [.02, .04]. The subscales of the difficulties in emotion regulation questionnaire will therefore be investigated in more detail.

6.7.5 Difficulties in regulating emotions subscale scores as predictors of distress related to depressive symptoms

A multiple regression model was carried out incorporating all DERS subscales, to test the predictive value of each subscales, when holding constant the effect of the

other subscales. The data did not violate the assumptions of multicollinearity, independent errors, non-zero variances, normality, homoscedasticity and linearity. Analysis of standardised residuals revealed no outliers (Std. residual min = -1.96 and Std. residual max = 2.1). The assumption of independence was also met, with a Durbin-Watson test value of 1.93. Overall, the data did not violate any assumptions and was therefore suitable for regression analysis.

The multiple regression model significantly predicted *distress associated with depressive symptoms*, $F(6,51)=55.68$, $p<.001$, adjusted $R^2 = .61$ a large effect size. Regression coefficients and confidence intervals can be found in table 10. This lends support to *emotion regulation difficulties* as a significant predictor of *distress associated with depressive symptoms* of psychosis. One variable significantly contributed to the model, *limited access to emotion regulation strategies* ($\beta=.60$, $p<.001$). This variable will be investigated in the mediation analyses.

Table 10. *Summary of multiple regression analysis predicting distress scores related to depressive symptoms with emotion regulation subscales (N=58)*

	Unstandardised Beta (B)	β	SE	95% CI for B	
				LB	UB
Non-acceptance	.00	.01	.02	-.04	.05
Goals	.01	.05	.02	-.04	.05
Impulse control	.01	.04	.02	-.04	.06
Awareness	.02	.08	.02	-.02	.05
Limited access to strategies	.07	.60**	.02	.04	.11
Clarity	.05	.21	.03	-.00	.11

** $p<0.01$, * $p<.05$

6.7.6 Limited access to emotion regulation strategies as a mediating variable between attachment dimensions and distress related to depressive symptoms

A simple mediation analysis was conducted to test if the relationship between *attachment anxiety* (predictor) and *distress related to depressive symptoms* (outcome) is mediated by *limited access to emotion regulation strategies* (see figure 12). It was found that *attachment anxiety* had an indirect effect on *distress related to depressive symptoms* through *limited access to emotion regulation strategies*; $b=.7$, $SE=.15$ BCa

99% CI [.35, 1.13] ($ab_{cs}=47$, large effect). The direct pathway from *attachment anxiety* to *distress related to depressive symptoms* was not significant ($b= .02$, $SE=.16$ BCa 99% CI [-.41, .45]).

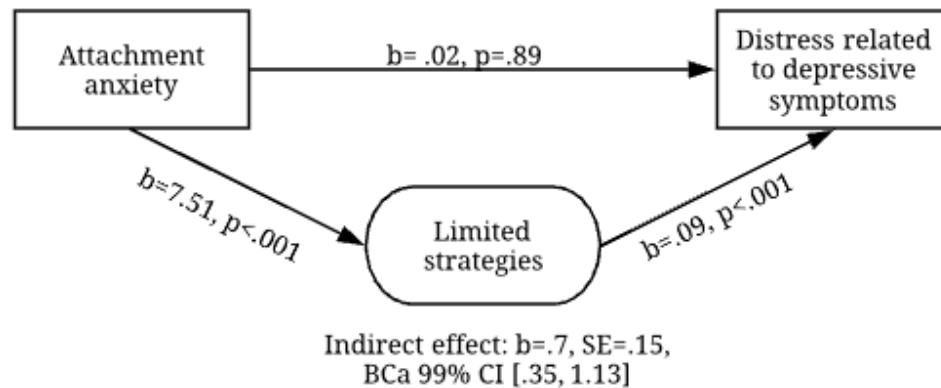


Figure 12. *Simple mediation analysis investigating the relationship between attachment anxiety and distress related to depressive symptoms through limited access to emotion regulation strategies*

Another simple mediation analysis was conducted to test if the relationship between *attachment avoidance* (predictor) and *distress related to depressive symptoms* (outcome) is mediated by *limited access to emotion regulation strategies*. It was found that *limited access to emotion regulation strategies* did not act as a mediator; $b=.38$, $SE=.16$, BCa 99% CI [-.12, .77].

6.7.7 Emotion regulation and metacognition as mediating variables between anxious attachment dimension and distress related to depressive symptoms

One parallel mediation model was conducted to test the mediating role of negative metacognitive beliefs about the uncontrollability and danger of thoughts (*negative beliefs*) and limited access to emotion regulation strategies (*limited strategies*) between *attachment anxiety* and *distress related to depressive symptoms* (see figure 13). Results demonstrated that *attachment anxiety* had an indirect effect on *distress related to depressive symptoms* through *limited access to emotion regulation strategies* ($b= .63$, $SE=.15$ BCa 99% CI [.3, 1.1], $ab_{cs}=43$, large effect) but *negative beliefs about the uncontrollability and danger of thoughts* did not act as a mediator ($b= .14$, $SE=.12$ BCa 99% CI [-.2, .46]).

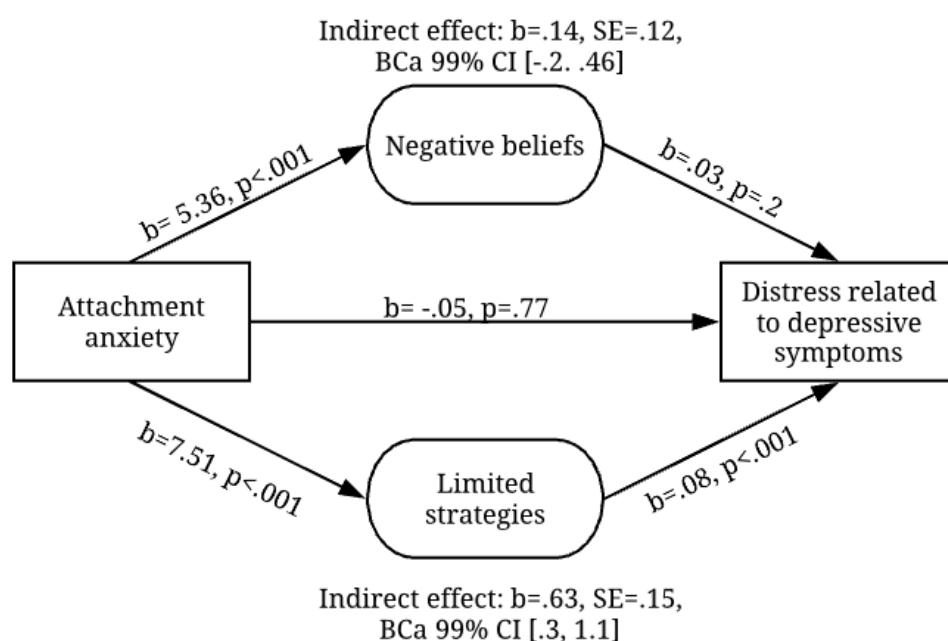


Figure 13. Parallel mediation analysis investigating the relationship between attachment anxiety and distress related to depressive symptoms through negative beliefs and limited strategies

This section investigated distress related to depressive symptoms in psychosis. *Total metacognition* scores significantly predicted *distress related to depressive symptoms*, thus, subscales were investigated. *Negative beliefs about the uncontrollability and danger of thoughts* was the only predictor of *distress related to depressive symptoms*, it was therefore carried into mediation models. *Negative beliefs about the uncontrollability and danger of thoughts* mediated the relationship between both *attachment anxiety and avoidance* and *distress related to depressive symptoms* of psychosis. *Total emotion regulation* scores also predicted *distress related to depressive symptoms*, thus the DERS subscales were also investigated in more detail. *Limited access to emotion regulation strategies* was the only significant predictor of *distress related to depressive symptoms of psychosis*. *Limited access to emotion regulation strategies* mediated the relationship between both *attachment anxiety and distress related to depressive symptoms* of psychosis. A multiple mediation model was conducted to investigate *negative beliefs about the uncontrollability and danger of thoughts* and *limited access to emotion regulation strategies* as mediators in the relationship between *attachment anxiety* and *distress related to depressive symptoms*. It was found that *attachment anxiety* had an indirect effect on *distress related to depressive symptoms* through *limited access to emotion regulation strategies*.

6.8 Study 1 Discussion

6.8.1 Hypothesis testing and summary of findings

The current study aimed to investigate the associations between insecure attachment, emotion regulation difficulties, metacognitive beliefs and levels of distress related to psychosis experiences. The second aim of the study was to examine the role of emotion regulation and metacognition as potential mediators between attachment dimensions and distress related to psychosis experiences. To our knowledge, the current study is the first to investigate the role psychological factors (emotion regulation and metacognition) play in the maintenance of distress related to psychosis experiences within an attachment framework in a clinical sample.

A novel contribution of this study was investigating if attachment dimensions predict distress with psychosis experiences. This had not been directly investigated in relation to groups of symptoms before. Berry and colleagues (2012) associated attachment anxiety with distress related to voice hearing and Pilton and colleagues (2016) investigated the relationship between beliefs about voices and relationships as mediating variables between insecure attachment and voice-related distress. Consistent with previous research (Berry et al., 2012; Pilton et al., 2016), in this study, attachment anxiety predicted distress related to positive symptoms and attachment avoidance did not. Attachment anxiety may play an important part in the development and maintenance of distress associated with positive and depressive symptoms of psychosis; anxious attachment relates to difficulties in emotion regulation, specifically hyperactivation of emotions, this can lead people to feel overwhelmed by negative affect (Mikulincer & Shaver, 2010). These findings lend support to the view that attachment theory, and specifically attachment anxiety, is a valuable tool for understanding the mechanisms underlying distress related to psychosis experiences for both positive and depressive symptoms (Peters et al., 2016; Read & Gumley, 2008). This should be investigated further in the future in order to facilitate better understanding and provide more effective support to insecurely attached people experiencing distress related to their psychosis experiences. Similarly, in line with previous research (e.g. Berry et al., 2009; Kvrgic et al., 2012; Ponizovsky et al., 2011), it was expected that insecure attachment dimensions would predict distress related to

depressive symptoms. Indeed, both attachment dimensions significantly predicted increased distress related to depressive symptoms in psychosis. Carr and colleagues (2018) found no significant association between insecure attachment dimensions and negative psychosis symptoms, a research question was therefore postulated to explore the association between attachment dimensions and distress related to negative symptoms. The results suggested that neither attachment dimensions predicted distress related to negative symptoms in psychosis.

For the second hypothesis investigating whether emotion regulation and metacognition predict distress related to psychosis experiences, a specific hypothesis (2a) was formulated postulating that *negative beliefs about the uncontrollability and danger of thoughts* (Brett et al., 2009) and *need for control* (Hill et al., 2012) would predict distress related to positive symptoms. This hypothesis was partially accepted as *need for control* significantly predicted distress related to positive symptoms. A research question (b) was posed to explore the relationship between emotion regulation and distress related to psychosis, as previous research focused on total scores (Osborne et al., 2017). It was found that limited access to emotion regulation strategies significantly predicted distress related to positive symptoms. Similarly the relationship between metacognitive difficulties and emotion regulation difficulties and distress related negative and depressive symptoms were also explored. It was found that metacognitive difficulties did not predict distress related to negative symptoms. Three specific domains of emotion regulation difficulties did predict distress related to negative symptoms, these are *non-acceptance of emotional responses*, *lack of emotional awareness* and *limited access to emotion regulation strategies*. Similarly, it was expected that emotion regulation and metacognitive difficulties would predict distress related to depressive symptoms in psychosis. It was found that *negative beliefs about the uncontrollability and danger of thoughts* and *limited access to emotion regulation strategies* predicted distress related to depressive symptoms.

The third hypothesis predicted that metacognition and difficulties in emotion regulation domains would mediate the relationship between attachment dimensions and distress related to psychosis experiences. It was found that the relationship between anxious attachment and distress related to positive symptoms in psychosis was mediated by people's *need for control*. The relationship between attachment anxiety

and distress related to negative symptoms was mediated by *limited access to emotion regulation strategies*. In relation to distress associated with depressive symptoms, simple mediation models suggested that *negative beliefs about the uncontrollability and danger of thoughts* mediated the relationship between attachment dimension (anxiety and avoidance) and distress related to depressive symptoms. Moreover, *limited access to emotion regulation strategies* mediated the relationship between anxious attachment and distress related to depressive symptoms. A parallel mediation model was conducted to determine whether these mediators remained significant when the variance of the other was controlled for. It was found that *limited access to emotion regulation strategies* mediated the relationship between attachment anxiety and distress related to depressive symptoms, and *negative beliefs about the uncontrollability and danger of thoughts* was no longer a significant mediator.

6.8.2 Attachment dimensions and distress related to psychosis experiences

Attachment avoidance did not significantly predict distress related to positive or negative symptoms, it only predicted distress associated with depressive symptoms. In the past, attachment avoidance has been linked to a tendency to suppress, deactivate or distance oneself from negative affect (Pilton et al., 2016). This functions to inhibit emotional states that may lead to the activation of the attachment system through cognitive disengagement, denial and repression (Feeney, 1998; Lopez, Mauricio, Gormley, Simko & Berger, 2001; Mikulincer & Orbach, 1995; Mikulincer & Shaver, 2010; Shapiro & Levendosky, 1999). Following this logic, it is possible that the participants in this study may be suppressing the distress associated with their psychosis experiences. Avoidant coping strategies, such as ‘sealing over’ and the ‘minimisation of symptoms’, have previously been related to poorer outcomes in psychosis, and a lower rate of symptom reporting and engagement with services (Dozier, 1990; Owens et al., 2013; Tait, Birchwood & Trower, 2003). If people suppress their emotions and are less likely to report their psychosis symptoms, it follows that they will also be less likely to report the distress associated with their symptoms (Berry et al., 2012). Together, these factors may explain the absence of significant indirect effects in the mediation models between attachment avoidance and distress related to positive and depressive psychosis experiences.

Neither anxious nor avoidant attachment dimensions significantly predicted distress related to negative symptoms. The relevant literature is characterised by inconsistent findings of associations between attachment dimensions and negative symptoms. For instance, Berry and colleagues (2008) did find a significant association between attachment avoidance and negative symptoms, however, the same relationship was absent in similar work (Bortolon, Capdevielle, Boulenger, Gely-Nargeot & Raffard, 2013; Korver-Nieberg et al., 2015). This may be a product of variations in negative symptom subtypes. Some people may be experiencing negative symptoms as *predominant* (or primary) symptoms of psychosis (McLeod et al., 2014b), or negative symptoms can be present alongside positive symptoms, thus distinguished as *prominent* (or secondary) (Carpenter et al., 1988; Kirkpatrick, Buchanan, Ross & Carpenter, 2001). This distinction is important when investigating distress associated with psychosis experiences as different psychological processes may be mediating the same observed behaviour (Carpenter, Regier & Tandon, 2014). Secondary negative symptoms will diminish in accordance with a decrease in positive symptoms, however primary negative symptoms will be unrelated to positive symptoms (McLeod et al., 2014b). Further, specific negative symptom clusters can exert a differential effect on outcomes (McLeod et al., 2014b). This is often overlooked as self-report measures investigating negative symptom do not differentiate between the subtypes of negative symptoms. In order to gain a better understanding of distress related to negative symptoms of psychosis, research should focus on measuring negative symptom subtypes.

6.8.3 Psychological vulnerability factors and distress related to psychosis experiences within an attachment framework

The second aim of the present study was to investigate how emotion regulation difficulties and unhelpful metacognitive beliefs influenced the relationship between attachment dimensions and distress related to psychosis experiences. In their cognitive model of psychosis, Garety and colleagues (2001) suggest that early adverse experiences can create enduring cognitive and emotional vulnerability factors characterised by negative schematic models of the world, the self and others. To empirically test this suggestion, specific domains of emotion regulation difficulties

(DERS) and metacognition difficulties (MCQ) that significantly predicted the outcome variables were investigated in simple mediation models.

People's *need for control* over their thoughts mediated the relationship between insecure attachment dimensions and distress related to positive symptoms. This is a noteworthy finding; it suggests that the distress insecurely attached people feel in relation to their positive symptoms is maintained by the lack of control they experience about their beliefs and experiences. Hill and colleagues (2012) found a significant association between the need for control subscale and distress related to voice hearing. Freeman and Garety (1999) also highlight the role of controllability in determining outcomes, where delusional distress depends on whether the person worries about not being able to control thoughts about their beliefs. Therefore, the role lack of control plays in people's experiences of psychosis is not limited to their voice hearing experiences and delusions, but relates to positive symptoms more widely. In accordance with the present results, Brett and colleagues (2012) demonstrated 'perceived controllability' as an experience-related predictor of distress. They also suggested that psychosis may be more distressing for people who expect control and consistency. When viewed through an attachment framework, people who have anxious attachment styles are likely to have negative images of themselves and the world (Berry et al., 2008). They may therefore feel inadequate and unequipped to deal with their psychosis experiences. Moreover, when these insecurities are combined with metacognitive difficulties such as lacking control over one's thoughts, this can in turn lead to further distress associated with positive symptoms. The analysis of the qualitative data for study 2 of this project was completed first and people's perceived lack of control was identified as an overarching appraisal people made in relation to their psychosis experiences. People described not being in control of their self and their life. Qualitative accounts of loss of control is explored in more detail in chapters 8 and 9.

People's sense of not being able to select appropriate emotion regulation strategies mediated the relationship between attachment anxiety and distress related to negative and depressive symptoms. Previous research has established that people experiencing psychosis employ ineffective emotion regulation strategies when expressing, processing and experiencing emotions (Khoury & Lecomte, 2012;

Livingstone et al., 2009; O'Driscoll et al., 2014; van der Meer et al., 2009). Further, emotional disturbances are known to influence the experience of psychosis (Freeman & Garety, 2003) and can be identified as a sign of relapse (Tait et al., 2002). This finding suggests that people's inability to make flexible use of situationally appropriate emotion regulation strategies to modulate emotional responses can contribute to the maintenance of distress related to psychosis experiences in people with anxious attachment dimensions. This is meaningful in a number of ways; first, it can be assumed through the association between attachment anxiety and emotion regulation difficulties that people are likely to use hyperactivation strategies (Mikulincer et al., 2003). This is likely to increase people's ability to make situationally inappropriate judgements and lead to the maintenance of increased levels of distress related to negative symptoms. Second, arguably anxiously attached people have exaggerated appraisals of the threats conveyed in psychosis experiences, heightened by an inability to find adequate regulation strategies (Mikulincer & Florian, 1998). This will further heighten and perpetuate the experience of distress related to negative symptoms.

Negative beliefs about the uncontrollability and danger of thoughts was identified as a mediator in the relationship between attachment dimensions and *distress related to depressive symptoms*. This metacognitive dimension was also identified as a predictor of increased distress related to psychotic-like experiences in Brett and colleagues' (2009) study comparing non-clinical and clinical groups. Although the S-REF model was not specifically targeted at explaining processes in psychosis, it does predict that metacognitive beliefs are associated with and implicated in the development and maintenance of emotional disorders, including depression (e.g. Papageorgiou & Wells, 2001). It is suggested in line with the mechanisms of the S-REF model that psychological disorders are maintained when the processing and coping activities operating in distressed states interfere with the cognitive adjustments necessary to return to normal functioning (Wells, 2000). When negative beliefs about a person's ability to control their thoughts are heightened, they are unlikely to employ appraisals and coping strategies that would lead to interrupting S-REF activity. Negative beliefs (such as 'worrying is uncontrollable') also lead to the activation of the Cognitive Attentional Syndrome (CAS) that prolongs negative emotional states or distress (Wells & Matthews, 1996), individuals then engage in sustained negative processing in response to psychosis symptoms (Wells, 2007). As such, it is possible

that negative beliefs about the uncontrollability and danger of thought is related to distress associated with depressive symptoms, independent of psychosis symptoms and their appraisals (Brett et al., 2009; Hill et al., 2012).

It is argued, albeit cautiously, that this study illustrates that specific domains of metacognition and emotion regulation are important factors that figure into the way people appraise and relate to their experiences of psychosis. This study suggests that people with a need for control on the one hand and limited access to emotion regulation strategies on the other, will hold negative appraisals about their experiences. As a consequence, this interplay may lead to increased distress related to psychosis experiences in anxiously attached people.

6.8.4 Limitations

The results of the current study need to be considered in light of a number of limitations. First, as this study has adopted a cross-sectional design, it cannot draw any causal claims or conclusions. Moreover, using self-report measures may have limited the investigators ability to detect subtle associations between insecure attachment and distress.

Second, as was previously mentioned, the researcher encountered reliability issues with the avoidance subscale of the PAM (Berry et al., 2008). To move beyond this, three items were removed from the scale. This may have altered how the attachment avoidance variable related to the other variables in the study. This could have contributed to the lack of relationship between attachment avoidance and distress related to psychosis experiences.

Third, the frequency of psychosis symptoms is not controlled for when distress is measured. It could be argued that people who have more frequent symptoms are more likely to be more distressed. Controlling for the frequency of symptoms was considered, however, the design of the CAPE does not allow for that distinction. Moreover, the researcher contacted Jim van Os who suggested that frequency and distress are strongly and fundamentally associated and thus cannot be investigated

separately (see Appendix 24 for the email). It would be beneficial for future studies to control for symptom frequency, this could be done by using separate measures for symptoms frequency and distress.

Lastly, although the sample size of the study parallels previous research investigating psychosis in a clinical population (e.g. Macbeth et al., 2014; Pilton et al., 2016), it is modest and therefore may limit the explanatory power of the study. Despite this, a number of predicted effects were obtained, this suggest that the sample had enough power to detect larger or more consistent effect. Moreover, multiple analysis of the data may have increased the chance of encountering type I errors. Benjamini-Hochberg (1995) calculations were completed to account for this in a rigorous manner, and to minimise the possibility of unreliability. No differences were observed in the adjusted and unadjusted results. Similarly, the mediation analyses employed a bootstrapping methodology to provide more robust results.

6.8.5 Future research

This study has produced a number of novel findings upon which future research can expand. This is the first study to explore the relationship between insecure attachment style and distress related to psychosis experiences.

Firstly, future research should build on the findings of this study with longitudinal investigations looking at the causal role of attachment dimensions on distress related to psychosis experiences. Moreover, recruiting people at different levels of the continuum can be helpful in monitoring the progression of distress. For instance, recruiting people at risk of psychosis can be helpful in determining whether distress related to psychosis experiences plays a role whether people come in contact with mental health services in the first place. This can be facilitated by designing a recruitment process independent from community mental health teams, or by focusing on early intervention in psychosis services. This can also increase the possibility of recruiting people with very avoidant attachment dimensions as they are less likely to come into contact with mental health services (Gumley et al., 2014; Owens et al., 2013). A wider recruitment pool can also benefit towards recruiting a more diverse

sample in order to achieve a higher proportion of female participants and ethnic groups.

Secondly, the presence of the researcher during the completion of the self-report measures may have contributed to participants' responses being moderated. Future research should be designed for participants to complete the measures in their own time and on their own. This could also help limit the likelihood of participants under-reporting their experiences of distress to moderate mental health services' involvement.

Third, experimental studies can be designed to manipulate emotion regulation abilities and metacognition skills in order to assess subsequent distress related to psychosis experiences. This can also be done in non-clinical populations to identify the similarities and differences in people's emotional and cognitive difficulties.

Chapter 7. Study 2 – An Investigation of People’s Appraisals of Their Psychosis Experiences in Relation to the Distress they Experiences: Background and Methods

7.1. Background and Rationale for the Study

The qualitative study of this project set out to gain a nuanced and in-depth understanding of people’s appraisals of their experiences of psychosis. Cognitive models of psychosis (Garety et al., 2001, 2007; Morrison, 2001) highlight the importance of appraisals to the development and maintenance of psychosis experiences. Often people who have psychosis experiences will be distressed by them and seek help. However, there is also evidence to suggest many do not experience distress (Verdoux & van Os, 2002). Therefore, psychosis experiences are not inherently distressing in themselves, and in order to understand how they come to be distressing; people’s appraisals of psychosis and the social contexts within which their experiences take place need to be investigated.

Quantitative studies conducted by Brett and colleagues (2007, 2009) compared diagnosed and undiagnosed groups reporting psychotic-like experiences. They found that clinical populations were more likely to attribute their experiences to ‘external factors’ or to be ‘caused by other people’. Non-clinical groups, on the other hand, had more ‘psychological’, ‘spiritual’ and ‘normalising’ appraisals of their experiences, they also felt better understood by others. Lovatt and colleagues (2010) used the same measure to replicate the results and further focused on the role of trauma and social support. There were no group differences in traumatic life events; however both groups had higher trauma levels than the general population. This suggests that psychological vulnerability factors, such as trauma, may relate to distress associated with psychosis experiences rather than psychosis experiences. The breadth of these studies (Brett et al., 2007, 2009, 2014; Lovatt et al., 2010) is limited by their use of an inventory (i.e. AANEX; Brett et al., 2007). This meant that people's experiences, appraisals and responses were recorded into pre-defined categories of the self-report measure, it is, therefore, possible that information regarding the appraisals, feelings and idiographic meanings surrounding psychosis experiences, and the wider context in which they occur may have been lost. Without these components, it can be difficult to gain a holistic understanding of people’s appraisals and responses that predict distress related to psychosis experiences.

Heriot-Maitland, Knight and Peters (2012) conducted a qualitative study to explore the nature and context of 'out-of-the-ordinary' experiences, focusing on factors involved in triggering people's experiences. They recruited one clinical and one non-clinical group and made inter-group comparisons using interpretative phenomenological analysis (IPA). Participants in both groups reported periods of high stress leading to the onset of their experiences, and these were often accompanied by isolation and deep contemplation about the meaning and direction of their lives (Heriot-Maitland et al., 2012). Further, their participants explained that the initial 'out-of-the-ordinary' experience provided some emotional fulfilment. In relation to group differences, non-clinical participants seemed better able to incorporate their experiences into their personal and social worlds. Clinical groups had been more subjected to being invalidated or their experiences pathologised and they also had fewer people who could validate their experiences. Moreover, non-clinical groups perceived their experiences to be desirable and transient. They were also more likely to consider multiple appraisal options compared to clinical groups who did not. Heriot-Maitland and colleagues' (2012) work is very important in providing more nuance to the context, and factors constituting the similarities and differences between clinical and non-clinical groups and their experiences. However, the comparative nature of their work limits the depth that can be achieved for each theme. Further, since they investigated factors triggering people's experiences, temporal proximity to the onset of psychosis was important. Thus, they recruited people who started experiencing psychosis within five years of the study being conducted. This is important because appraisals vary over time (Brett et al., 2007). It is therefore possible that for people who have been experiencing psychosis for a long time, the appraisals contributing to the maintenance of distress related to psychosis experiences will be different.

To address the gap in the literature and extend understanding of people's appraisals of their psychosis experiences, a qualitative study was conducted with people who have been experiencing psychosis for more than five years. This was done to provide an in-depth, nuanced and idiographic approach of people's appraisals. Interpretative phenomenological analysis (IPA) was deemed the most appropriate research method due to its focus on people's experiences. Details of IPA and the study methods are presented to the reader in the next chapter. Information on the participants,

the procedure of the study and efforts to ensure the quality and rigour of the research are also detailed. The findings of Study 2 are presented in Chapter 8.

7.2 Methodological Considerations

A number of methodologies are available to the qualitative researcher, it is therefore important to consider their variations and similarities in order to determine the most adequate methods to study particular research questions. Before deciding on IPA (Smith, 1996) for the current research, Discourse Analysis (DA, Parker, 1992), thematic analysis (Braun & Clarke, 2006) and Grounded theory (Chew & May, 1997) were considered.

Discourse analysis (DA) is similar to IPA as they both attribute importance to how participants use language to describe experiences, alongside involving a close reading and analysis of the data (Potter, 1996). A prime distinction between IPA and DA is that DA examines the role of language in describing the person's experience, in that sense, language is not only descriptive but also functional (Langdridge, 2007). In IPA, the focus is on how people ascribe meaning to their experiences in their interactions with the environment, through their subjective construction of reality (Smith, Jarman & Osborn, 1999). IPA was chosen over DA because it gives more attention to cognition as it aims to elucidate information on the process of thinking. DA does not account for mental processes and their influence on one's behaviours. In seeking further understanding of people's experiences and perceptions of psychosis it is important to focus not only on the way people talk about their experiences but also to investigate how they think about their thoughts. Since it is not possible to access someone's thoughts, IPA is rather on a search for an interpretation of one's thoughts (Smith et al., 1999). IPA uses verbal reports to look at a participant's thinking processes and how people make sense of their experience (Smith, 2011; Smith, Jarman & Osborn, 1999). The exploration of participants' cognition is crucial in understanding distress associated with psychosis experiences.

Thematic analysis is another method that was considered during the design of the study. It is used to search for repeated or significant patterns of meaning across participants, although it can also capture differences and divergences in data. On the

other hand, IPA focuses on unique characteristics of individual participants and on patterns of meaning across participants (Smith, Flowers & Larkin, 2009). These considerations are more appropriate to the study at hand as there are significant individual differences in psychosis experiences and people's perceptions of their experiences (Read, 2004).

The final method considered for the present study was grounded theory. It aims to generate theories that are grounded in rich and detailed data from descriptions provided by participants themselves. Both IPA and grounded theory aim to create a cognitive map that showcases a person's view of the world (Willig, 2013). Grounded theory does that through the study of basic social processes, while IPA aims to gain insight into the individual's psychological worlds (Smith et al., 2009). Grounded theory looks for processes that aim to identify and explicate social processes that account for phenomena, IPA aims to gain better understanding of the quality and texture of individual experiences; it is interested in the nature or the 'essence of phenomena' (Willig, 2013, p.295) which is more appropriate for the aim of this study. A phenomenological design of enquiry is clearly aligned with the aim of this study as it focuses on the content of consciousness and lived experiences of a phenomenon as described by participants. Its goal is to articulate the underlying lived structure of a meaningful experience on the level of conceptual experience (Osborne, 1990).

7.3 Overview of IPA

A phenomenological design of enquiry is clearly aligned with the aim of this study as it focuses on the content of consciousness and lived experiences of a phenomenon as described by participants. Its goal is to articulate the underlying lived structure of a meaningful experience on the level of conceptual experience (Osborne, 1990). Phenomenology is a philosophical movement that began with Edmund Husserl (1859-1938), it elaborates on the experience of being human, particularly in terms of things that matter to people constituting their lived world (Smith et al., 2009). Phenomenological philosophy provides a rich source about how to look into and understand lived experiences and "attempts to describe in detail the content and structure of the person's consciousness, to grasp the qualitative diversity of their

experiences and to explicate their essential meanings” (Kvale, 1996, p.53). How people perceive objects and events is therefore important. Heidegger further developed Husserl’s thoughts, into existential philosophy and hermeneutics (Willig, 2013). Interpretative phenomenological analysis is a version of phenomenological analysis that accepts that it is impossible to gain direct access to one’s life worlds. IPA recognises that while exploring the participant’s experience from their perspective, such exploration must implicate the researcher’s view of the world and the nature of the interaction between researcher and participant. Therefore, the analysis produced is always an interpretation of the person’s experience whilst maintaining a critical and reflective stance (Smith et al., 2009).

Interpretative phenomenological analysis (IPA) was first described by Jonathan Smith in 1996 to allow rigorous explorations of idiographic subjective experiences. It has now become increasingly popular, often chosen to evaluate people’s experiences and preconceptions (e.g. Dickson, Knussen & Flowers, 2008; Rhodes & Smith, 2010; Heriot-Maitland et al., 2012). The primary aim of IPA is to investigate how individuals make sense of their experiences (Pietkiewicz & Smith, 2014), described by its founders as: “Complex understandings of ‘experience’ invokes a lived process, an unfurling of perspectives and meanings, which are unique to the person’s embodied and situated relationship to the world” (Smith et al., 2009, p.21).

It has been suggested that IPA is suitable to research of a complex and personal nature (Kay & Kingston, 2002). It can therefore be of valuable contribution to the psychosis literature, as there is already a literature forming around the use of IPA in psychosis research. Previous IPA research with people experiencing psychosis focused on exploring subjects such as stigma (Knight, Wykes & Hayward, 2003), first episode service (O’toole et al., 2004), delusional content (Rhodes & Jakes, 2004 and Rhodes, Jakes & Robinson, 2005), the experience of paranoia (Campbell & Morrison, 2007), recovery (Pitt, Kilbride, Nothard, Welford & Morrison, 2007), and group CBT amongst young service users (Newton, Larkin, Melhuish & Wykes, 2007). Thus, IPA is appropriate for studying individuals’ experience of psychosis. People’s experiences are complex, difficult processes and meanings derived from personal experiences are highly salient. Therefore, the use of IPA provides an in depth account of lived experiences that quantitative data cannot access. Van Manen explains (1990, p. 180,

cited in Giorgi and Giorgi 2008, p. 168): ‘The (phenomenological) ‘facts’ of lived experience are always meaningfully (hermeneutically) experienced. Moreover, even the ‘facts’ of lived experience need to be captured in language and this is inevitably an interpretative process.’

Therefore, the researcher has an active role in the analytical process engaging in double hermeneutics where the researcher makes meaning of the participants meaning making (Smith & Osborne, 2008). IPA is focused on increasing understanding of what it is like from the perspective of the participant. The aim being to construct a rich and detailed image of the case under investigation using a case by case, idiographic approach (Willig, 2013). IPA’s idiographic approach is important in capturing personal appraisals people make of their experiences of psychosis and individual differences that may appear. While displaying a theoretical commitment to the interviewee’s cognitive, linguistic, affective and physical being and assuming a chain of connection between a person’s talk, their thinking and emotional state (Smith & Osborn, 2008). To do so, the principles of phenomenology, idiography and hermeneutics were taken into account at every step from the design of the project to its analysis.

7.4 Aim

This study sought to investigate people’s appraisals of their experiences of psychosis in relation to the distress they experience.

7.5 Context and the Meaning of ‘Distress’

Recent research suggests that the frequency of psychotic-like symptoms of non-clinical samples are comparable to clinical samples (Boumans et al., 2016). They found that what differentiates clinical and non-clinical groups is how they appraise and respond to their experiences and how distressed they are by them (Brett et al., 2007; Peters et al., 2016). All the participants in the current study had psychosis spectrum disorder diagnosis for more than five years prior to the interview, all had been or were still in contact with mental health services and the large majority of participants were regularly meeting with their CPN. The participants of this study would therefore be considered as a group in ‘need for care’ (Brett et al., 2014). It can be assumed that people who have received a diagnosis a number of years ago are still in contact with

mental health services because they have maintained negative appraisals of their experiences and the distress associated with them.

Distress can mean different things to different people. In the literature, research focuses on ‘mental distress’ (Cardano, 2010; Jacob, 2013) which relates to feeling unwell, it can also relate to psychosis itself (Tan, Gould, Combes & Lehmann, 2014). As well as ‘emotional distress’ (e.g. Espinosa, Valiente, Rigabert & Song, 2016; Freeman et al., 2002) relating to anxiety and depression. Neither definition elucidates people’s emotional experiences associated with their psychosis experiences. Variations in definitions of distress suggest that it can be better understood as a complex combination of a range of experiences, and it would be an oversimplification to assume a single experiential definition. In order to appreciate this variation, it was deemed more helpful to adopt an in-depth and idiographic approach in investigating people’s appraisals of psychosis. The researcher did not employ the term ‘distress’ unless the participants did. Therefore, instead of focusing on ‘distress’, emotions and feelings surrounding the experience of psychosis were foregrounded in order to elucidate people’s idiographic accounts to their appraisals of their psychosis experiences. Understanding people’s negative appraisals provides in depth information on what contributes to the development and maintenance of distress related to psychosis experiences (Brett et al., 2014).

7.6 Participants

In line with IPA guidelines, the researcher set out to sample purposively (Reid, Flowers & Larkin, 2005). The research was designed to engage with people who have psychosis experiences and are willing to talk about their experiences. All inclusion criteria described for Study 1 are relevant for this study also (see 5.2). Upon completion of the self-report measures (Study 1, see chapters 5 and 6) participants were asked if they would be interested in participating to a follow-up interview that will be audio recorded. Participants were given a reply slip (see Appendix 11) only if they showed interest in being interviewed. Similar to the first study, the return of the reply slip allowed the researcher to contact the participants for the follow-up interview for which a meeting date was set.

Nine men and one woman participated, the mean age was 48.9 (range 33-75). All participants had medical diagnoses of a schizophrenia spectrum disorder; schizophrenia (3), schizoaffective disorder (1), paranoid schizophrenia (5), delusional disorder (1). Nine participants were White British one Asian. One was in employment. Two participants were referred by a clinical psychologist and therefore were in therapy at the time of the interview. Two participants were referred from a charity and were no longer involved in active Community Care, all other participants were involved with their Community Mental Health Teams. Overall, people who were interviewed were not in crisis but most had ongoing contact with Community Mental Health Services. The two participants (Alan and Patrick) who were no longer in contact with mental health services and the differences in their perception and portrayal of their experiences were taken into account; when variations in their appraisals were identified, these are highlighted in the results. All participants had capacity to consent. Participants are referred to by pseudonyms the researcher chose. Please see Table 10 below for more details on the sample.

Table 11. *Details of the sample characteristics*

Interview (Participant no)	No	Date	Pseudonym*	Ethnicity	Latest diagnosis	Last admission	Gender	Age	Duration of interview
1 (3)		14/10/15	James	White Scottish	Schizophrenia	1996	Male	52	53:54
2 (4)		11/11	Josh	White Scottish	Paranoid schizophrenia	2015	Male	44	50:13
3 (1)		25/11	Luke	White Scottish	Paranoid schizophrenia	2004	Male	47	59:21
4 (12)		12/12	Alan	White Scottish	Schizophrenia	1990	Male	75	57:23
5 (14)		07/01/16	Patrick	White Scottish	Paranoid schizophrenia	2002	Male	44	43:17
6 (15)		22/04	Phillip	White British	Schizoaffective disorder	2014	Male	53	51:13
7 (18)		12/05	Amal	Asian	Delusional disorder	2013	Female	39	65:19
8 (26)		26/06	Hamish	White Scottish	Schizophrenia	2010	Male	54	50:03
9 (20)		02/06	Jonathan	White Scottish	Paranoid schizophrenia	2013	Male	33	93:22
10 (25)		09/06	Craig	White Scottish	Paranoid schizophrenia	2014	Male	48	47:53

Note: *All names have been changed by the researcher

7.7 Procedure

Ethical review was obtained by the NHS Research Ethics committee, for which the qualitative study was presented alongside the quantitative study. Semi-structured interviews were conducted; they lasted between 43 and 93 minutes (average time 57 minutes). The interviews took place in the CMHT Centres (7), charity centres (2) or participant's home (1). An interview schedule was developed to provide a framework for analysis, guidelines recommended by Smith & Eatough (2006) were used, the questions were open ended and neutral (Smith, 1999), and the schedule was merely designed to direct the researcher. The schedule (see Appendix 15) was adapted to ensure the interview was grounded in the participant's experiences (Smith et al., 2009) and it was used flexibly, participants' own vocabulary was used whenever possible. All interviews started with the question "Can you tell me a bit about your experience of psychosis?". A pilot interview revealed that the questions were clear and answerable by the participants, therefore, the pilot interview was also included in the final analysis. The interviews were carried out in line with the 'Code of Ethics and conduct' of the British Psychological Society (2009). All interviews were transcribed verbatim by the researcher. Once the interviews were transcribed in full, audio recordings were listened to multiple times, they were then transferred onto a password protected USB and stored in a locked file cabinet.

7.8 Analytic Procedure

The verbatim transcripts of the interviews were subjected to detailed qualitative analysis in order to elucidate the experiential themes in the participant's answers. IPA is a two-stage interpretation process as the researcher attempts to make sense of the participant's attempt to make sense of their world (Smith & Osborn, 2008). Interpretative phenomenological analysis draws on various analytic strategies, laid out as a series of steps, creating an iterative and inductive cycle (Smith et al., 2009). The steps taken in this project are detailed below, all of which were completed in line with the guidelines provided by Smith and colleagues (2009).

Transcripts were listened to multiple times before and during their analysis. Each transcript was analysed individually and the researcher moved on to the next transcript

following completion of the previous one, in line with the idiographic approach of IPA. The first step involved immersing oneself in the data. The researcher closely read the transcript at hand multiple times. This stage is aimed at ensuring that the participant is the focus of the analysis, with a phase of active engagement with the data. The researcher took notes about emerging observations and reflections outside of the transcript on a codebook, to go back to again during/after the analysis of the transcript is complete.

During the initial noting steps, the researcher examined the semantic content and language used on a more exploratory level (Smith et al., 2009, p.83), close to a free textual analysis. The researcher added comments about the sense of the person that is coming across, noting anything of interest (see Appendix 16 for an example). This step produced a comprehensive and detailed set of notes and comments on the data, different levels of analysis were separated using colour codes in order to help making sense of the patterns of meaning in the accounts (Smith et al., 2009, p.83).

The researcher then wrote down a version of the person's story; the researcher's view of the participant's view of the world (double hermeneutics). This was done in order to further ground understanding in the transcript before starting to move away from it (Smith et al., 2009). Emerging themes were suggested from the various codes on the transcript. Themes were established within the transcript in the order they came up, then regrouped. With the help of mind maps, connections were drawn and possible clusters of conceptual themes were identified to account for the participant's experiences of psychosis (Smith et al., 2009). It is only once a holistic picture of one participant's story was achieved that the researcher moved on to the next transcript.

The final step required looking at the patterns across cases, in order to determine existing connections between cases. All emerging themes were laid out onto an A3 sheet to help identify the similarities and differences between the participants and their themes. Emerging themes were further developed to incorporate what initially appeared to be deviant cases in the dataset. Particular care was attributed to identifying the similarities and differences between individual participants, specifically keeping in mind the two participants that were no longer supported by community mental health teams. This step moved the analysis of the interviews into a more theoretical

level (Smith et al., 2009). Analysis continued throughout the write up of the results chapter of the thesis. Extracts representative of emerging themes were chosen and their interpretation was written bringing the whole to the parts and the parts to the whole throughout the results chapter.

7.9 Ensuring Rigour and Quality

In line with Yardley's (2000, 2008) flexible and open-ended principles, the study was designed and conducted with reliability and validity in mind (see Table 11). Credibility checks for good practice were also utilised from design to analysis (Smith, 1999, 2011). *Sensitivity to context* was ensured through a thorough literature review and involvement in all aspects of the research, *commitment and rigour* were maintained throughout the project. All stages of the research were designed to be *transparent*, where all steps of the research were shared with gatekeepers and participants, and a detailed analysis notebook was kept (see Appendix 26 for the researcher's reflexivity piece). *Coherence* was ensured through a consistent philosophy and research question, as well as the logic and unambiguity of themes and their analysis. Lastly, *impact and importance*, Yardley (2000) stated that however well a piece of research is conducted, the real test of validity lies in whether it tells the reader something interesting, important or useful. Emphasising the important result for research is that it has impact and utility. Whether the project has an impact on care and research in psychosis is beyond the time of the submission of this thesis. The researcher agreed as part of the recruitment process to feed back to the West Lothian staff and service users. Staff in West Lothian are aware of the completion of the analysis and this will take place in due course. Overall, the researcher took great care to ensure the rigour and quality of this project.

Table 12. *Detail of measures taken to ensure reliability and validity, quality and rigour of the process and analysis*

Type of measure	Activity
Scottish IPA Interest group (SIPAIG)	Monthly meetings and trainings on the theory and analysis of IPA.
Supervision	The analysis and identified themes were discussed during supervision. One of the transcripts was also analysed by one of the research supervisors (CM).
Sent transcripts to participants	Participants were given the option to see the transcripts of the interviews if they want to. In order to make sure the qualitative interviews were transcribed appropriately. All participants that wanted to see their transcripts were sent them. No individuals replied.
Conference presentations	The findings of the qualitative research have been presented in a number of conferences, including the international IPA conference where both Jonathan Smith and Michael Larkin provided positive feedback

Chapter 8: Study 2: Results

Participants provided in depth accounts of their psychosis experiences, with a specific focus on their appraisals of and feelings associated with their psychosis experiences. These were classified under four recurrent inter-related themes; lacking control, living in fear, renegotiating personal and social identity and multiple realities. All emerging themes appear to divide into two sub-themes: exploring internal and external dimensions. See Table 13 for an overview of the superordinate and subordinate themes in their entirety. Furthermore, Figure 14 represents all the themes and the associations between them. Where possible, participants' words were used to label the subthemes to represent the essence of participants' experiences. To ensure transparency, anonymised quotes are used throughout the findings chapter to reflect participants' experiences.

Table 13. *Overview of Study 2 themes*

Superordinate themes	Subthemes	
	Internal	External
Lacking control	'There is nothing under the sun I could have done': Psychosis as the locus of control	'Psychosis has its own logical reasoning': Psychosis in relation to the self
Change – renegotiating personal and social identity	'As if you don't know that person at all': Changes in personal identity	'I'd like to have been listened to': Changes in social identity
Living in fear	'I am terrified': Psychosis is frightening	'They are looking at you': Fear of others' perceptions
Multiple realities	'I was conscious that I wasn't in a different location': Experiencing multiple realities	'The second side of it is the clinical side': Exploring external perceptions of one's realities

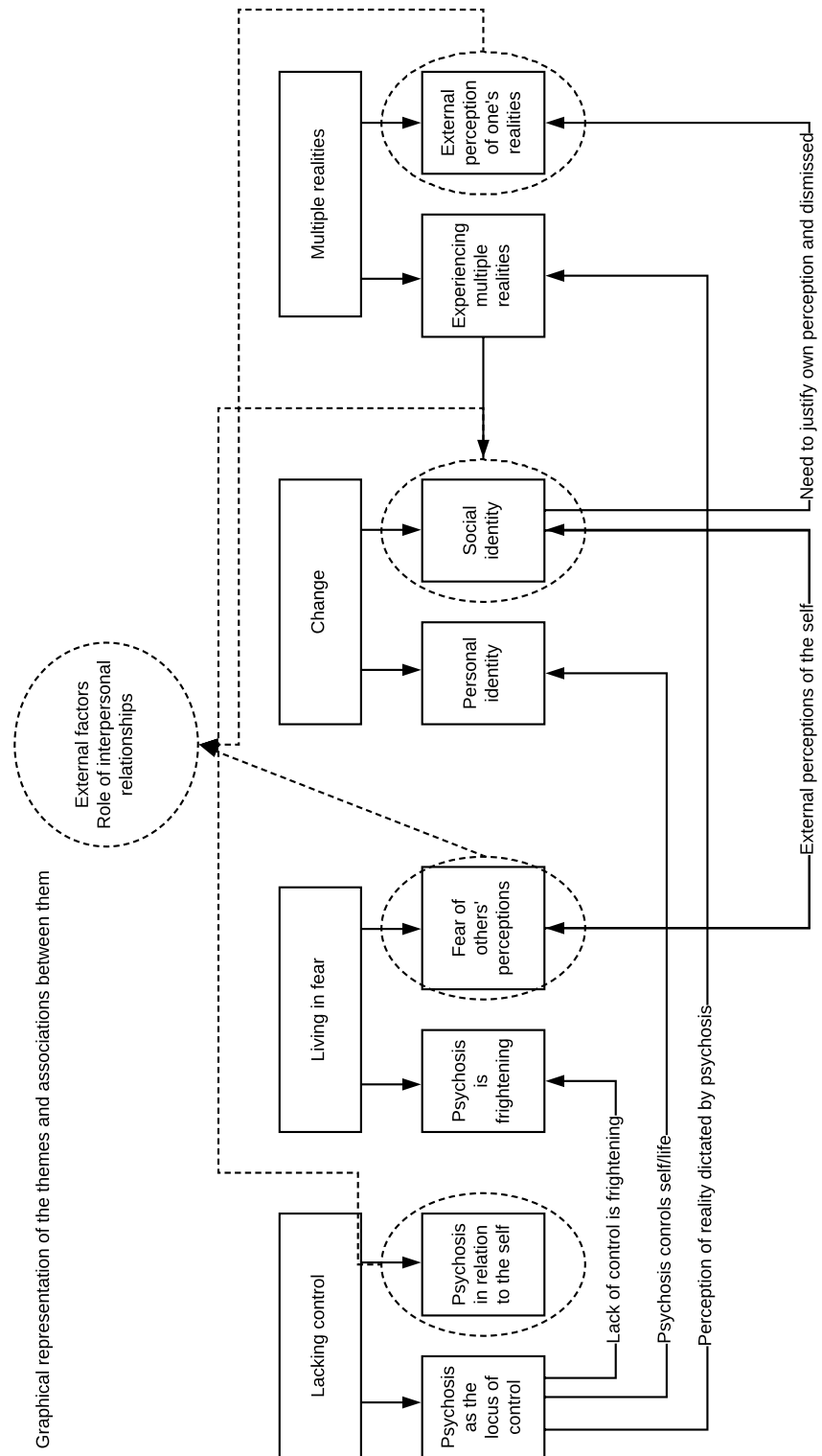


Figure 14. *Graphical representation of the themes that emerged from the qualitative study and associations between them*

8.1 Lacking Control

Participants report an ongoing sense of lack of control as a result of their psychosis experiences. This is related to both the onset and the nature of their psychosis experiences. Participants report that psychosis took control over their lives and actions. Following this loss of control, people looked for ways of dealing with this, and some resorted to extreme measures while others reached out to medical professionals.

8.1.1 ‘There is nothing under the sun I could have done’: Psychosis as the locus of control

Following the onset of psychosis, people felt that they were no longer in control of their lives. Participants noticed that psychosis was holding the reins. Perhaps the most powerful example of this loss of control was expressed by Phillip. When asked about what he found distressing in relation to his experiences, he responded:

Well, distress is um where you uh feel you are not actually in control -what is going, what you actually – in the back of your mind you know what should be normal but you’re not actually experiencing it. (Phillip, 123-126)

Phillip described distress as the lack of control he felt as a result of his psychosis experiences. This lack of control may be related to the varied and unexpected nature of psychosis. As James put it ‘because it comes and goes, I can’t control it’ (125). This unpredictability made it difficult to plan anything. The distress associated with his lack of control is further heightened by the sense that he is not experiencing what can be considered ‘normal’ and he cannot change the outcome. Therefore, in addition to the lack of control, the thought of deviating from the norm and not being able to do anything about it, creates even more distress for him. Jonathan talked about how suddenly everything changed and derailed for him:

It went from I have complete control over everything to nothing at all. It's almost like as if a bomb went off and then... and at the moment slowly kinda trying to get the pieces back, and like building the foundation again. (Jonathan, 155-158)

The above account describes how Jonathan compared the onset of his psychosis to a ‘bomb’ going off. Like a bomb, psychosis can be qualified as unexpected, sudden and destructive. He alludes to losing control of his life very quickly. In the aftermath of this ‘explosion’, he is left trying to rebuild his life from the base. In a similar comparison relating to a lack of control, Amal describes her experiences of psychosis as a ‘movie’ (lines, 8 and 17). This metaphor could be associated with feeling like a spectator of one’s own life, watching a succession of events that the person cannot control or influence.

Hamish provides a clear account of how he perceived the role of psychosis in his life by comparing it to an abusive relationship. His personification of psychosis attests to how psychosis has claimed agency:

I mean it’s like being in a relationship, any sort of relationship that is nasty right, if you are ever in a relationship that is nasty you would try your damnest to get out of it but you can’t get out of that [laugh] this doesn’t go away, but you think, I mean you have no rational, I mean what the fuck can you do about it, it just won’t go away so it’s just crazy. (Hamish, 179-183)

In this comparison, psychosis is the abusive partner and their involvement is ‘nasty’. Despite his dedication and attempts at breaking free, he feels ill-equipped to do so. This failure leads to a sense of being trapped and alienated by psychosis, which may also cause a sense of hopelessness. In presenting psychosis as a partner he is in a relationship with, Hamish attributes an external role to his psychosis (this is explored further in the next sub-theme). He also points to the lack of rationality in psychosis; Hamish cannot predict its trajectory, and its next moves. Thus, psychosis cannot be seen or prevented. People’s inability to determine how things will unfold may play a key role in their sense of entrapment and inability to regain control.

This feeling of entrapment was common for participants. James explained, ‘There is nothing under the sun I could have done that would have made a difference’ (95-96). People explain that as an extension to losing control over their lives, their actions no longer belong to them. Josh describes his delusional beliefs and explains that they systematically control his ‘actions, my thoughts and emotions’ (90-91). Craig

was very irritated by the frequency of his experiences:

I just feel frustrated that I can't control the thoughts because they're just coming at me all the time and that's just all the time, constant and sometimes I start thinking to myself what if the voices start and then [...] it's like I said I worry, I worry about it. How I am not going to cope with this, I can't, sometimes I feel I just can't cope and it's just too much and there have been moments where I felt I do need to put myself into the hospital. (Craig, 418-424)

Craig is exasperated by his inability to control thoughts brought on by psychosis. Craig's account alludes to a build-up of negative feelings associated with the anticipation of the next time he will hear voices. Every time he hears voices he feels less able to control them and weaker in his attempts to regulate his worries. Whilst it seems like Craig accepts the control his voices have over him, at times he is very overwhelmed and feels he cannot cope with his experiences. He then suggests going to hospital as a way of placing the voices under control. Going to hospital means seeking mental health support. It means relinquishing control further to mental health professionals. It can be suggested then, that he is considering means such as medication that could achieve what he feels unable to do; regaining a level of control over the voices. This indicates a lack of belief in his own abilities to control his experiences. James reported that he waited for his psychotic episodes to stop, but it did not. Like James, most participants saw medication to be the only possible plan of action. As a result, they further relinquish control to medication for it to act against the symptoms. James described asking the psychiatrist for the 'wonder tablet' (68) to make it all go away:

As I said before the only real difference would have been the medicines from the psychiatrist. (James, 96-97)

Medication did not work for Craig; he tried a number of them over the years and they did not help with his psychosis experiences:

I would love to say that [specific antipsychotic] was the solution but I don't know where I go from here; what is it that I do to stop it from actually happening. It's like sometimes I like to think that there's a wee switch you know it's like a switch that switches on a switch that you can switch it off. I would love to be able to just switch it off. (Craig, 208-212)

Craig's metaphor about there being a 'switch' to turn off psychosis is very powerful in highlighting his desire for having control over his experiences as well as his strong desire to stop psychosis from occurring. Josh felt hopeless and stuck multiple times throughout the twenty-six years he has been experiencing psychosis. He attempted very extreme measures in trying to find relief from his experiences:

I was getting quite desperate and I thought I don't want to be like this anymore and I took an overdose of my diabetic meds and ended up in [name of hospital] again pumped full of sugar and fluid and vitamins cause I had a vitamin deficiency from poor diet. I've tried to kill myself now about 12 times over the past 26 years, but things have settled down again I am starting to feel more positive. (Josh, 363-370)

Josh attempted to remove himself from the situation as he could not find any other means of regaining control. Josh later explained that he feels 'relieved' (387) every time he wakes up, which suggests that he does not want to die but cannot find any other way to regain control.

8.1.2 'Psychosis has its own logical reasoning': Psychosis in relation to the self

All participants seemed to have reached a level of acceptance in relation to their experiences. To facilitate acceptance, people appeared to make sense of the nature of psychosis in various ways. How people appraised and made sense of their psychosis experiences can be related to how they attempt to deal with the lack of agency they feel in relation to the loss of control brought on by psychosis. Some people perceived psychosis as internal, meaning they made sense of their experiences as part of their self. Other participants viewed psychosis to be external to their minds and their self. Phillip talked about psychosis as an entity external to his self:

I never really thought that I could influence them [voices], no. These were things which were outside of me which were influencing me, trying to influence me to do various things based on what I was experiencing and what my thought processes were telling me to do. (Phillip, 185-188)

Phillip explained that he had no control over his voices. His life and actions were controlled by these experiences; his locus of control was external. He differentiated between his self and his thought processes. This suggests that he made sense of his experiences of psychosis as being external to his own mind. By saying that his voices were 'outside of me' he alludes to a physical barrier to this distinction. Perceiving his experiences as external is likely to add to his perceived inability to control them. Therefore, this may be a strategy for dealing with the lack of control he feels in relation to his experiences, as he is less likely to be able to control something that is external to himself. On the other hand, perceiving psychosis to be external may reinforce people's perceived lack of control. Patrick, reports psychosis to be internal, yet separate to his mind:

The mind can do some incredibly strange things and the thing is you can justify it in your own head as well so there is, you can reason, psychosis has its own logical reasoning, I don't know if that makes sense. (Patrick, 28-31)

Patrick made sense of his psychosis as part of his mind; however, it appears to have its own logical reasoning, taking over control while deciding the nature of thoughts and feelings. Not only can psychosis control people's experiences, Patrick's extract suggests that it also provides reasons to justify these actions.

He explains that the things he did during his psychosis episodes, he would never do himself; 'Not in 100 years I would dream of entering somebody's house or taking a car, it was quite interesting' (Patrick, 160-162). In this extract, Patrick clearly differentiates himself from his psychosis. So, although psychosis is internal, and it is part of his mind, it is also distinct from him. This again can be an attempt at dealing with the lack of control he feels. Indeed, if psychosis is different to the self and has 'its own logical reasoning' (29), then he cannot be responsible for the actions taken during episodes. This perspective may help relieve the guilt, confusion or embarrassment resulting from psychosis experiences. A similar statement was also made by James who explained that psychosis 'had a mind of its own' (95). James perceived psychosis to be the result of a malfunctioning mind:

The mind is an information processing device and when you start seeing things that

aren't there you aren't doing it very efficiently. The key seemed to be languages. If you study enough languages, you can find a language that help you think in a more normal fashion rather than jumping different states. (James, 46-51)

James, perceived psychosis to be internal and more specifically as part of the brain. He explained that the onset of psychosis suggests that something in the mind is not functioning as it should. His strategy to stop his psychosis experiences and regain control of his life is to learn languages. He believes that the correct language would 'lift all the symptoms' (129). Allowing his mind to start working efficiently once again. This was how he decided to deal with his experiences and he 'immersed' (125) himself in his studies in order to 'ignore' (126) psychosis. Hamish also described his voices as internal, yet separate:

I don't know maybe it's just your mind playing tricks which by the way it loves to. All the time! [M: in what sense?] The voices just playing tricks on you. It just loves to, it loves to be engaged with you, it loves to bother you, loves to upset you, I don't know why. Again [laugh], maybe it's because it's your subconscious, I don't know, I don't know how you describe it. (Hamish, 448-455)

It seems from the extract above that Hamish personified his voices. He describes them as having feelings and thoughts; they are mischievous. He talks about the voices as part of his mind and more specifically his subconscious – this suggests that he perceives his voices to be a representation of his subconscious that are trying to communicate:

And they would all chip in and they were there all the time and it was like a wee, their own wee World [M: Were they all talking to you?] They would talk amongst each other too, not very often, they would mostly talk to me. (Hamish, 524-527)

In Hamish's account, there is a distinction between himself and his voices. Whilst he perceives them to be part of his mind, he also clearly sees them as being separate. This is made evident when he mentions that his voices have their 'own wee world'. Overall, most participants perceived psychosis to be internal to their self but separate from their mind. These perceptions can be seen as meaning-making processes

related to people's understanding of psychosis, helping them to deal with their lack of control. Further, this distinction may help people maintain some control over their minds, despite their psychotic episodes. This perceived lack of control shared by everyone and their inability to regain agency can be very distressing.

This theme outlines participants' sense of loss of control following the onset of psychosis. Furthermore, the unpredictable nature of psychosis adds to a sense of entrapment and hopelessness they report. This theme also outlines how people try and make sense of the lack of control and agency that comes with psychosis. Some participants perceive psychosis to be internal yet separate and others perceive psychosis to be external to themselves. Both views can be understood as attempts to separate the self from psychosis in order to maintain a sense of agency over the self. Some participants talked about extreme measures to reclaim agency, more frequently though, people used medication. People's perceived lack of control in relation to their psychosis experiences contributes to the difficulties associated with all other appraisals of psychosis experiences identified in this study. Because they feel like their experiences are uncontrollable, people cannot re-negotiate the personal and social self they lose following the onset of psychosis.

8.2 Change: Re-negotiating Personal and Social Identity

Participants described change and transition associated with psychosis. The imposed and unwanted change and adjustments that psychosis brought onto people's lives were likely to be exacerbated by people's perceived lack of control; this seems to be distressing for people. This superordinate theme focuses on changes to personal identity people perceive in relation to their psychosis experiences, and changes to their social identity through external perceptions of themselves.

8.2.1 'As if you don't know that person at all': Changes in personal identity

The unexpected and imposing nature of these unwanted experiences leads people to question fundamental beliefs about their identity. Psychosis imposes a transition to a new way of being, a new identity and a new life. People therefore need to deal with an imposed self, different to their previous self and a new life they have never known or considered:

It's someone that I know so well because I experience and live, and I know myself so well because obviously you can't escape from yourself. But at the same time, it's as if you don't know that person at all, because of all the new challenges that have been presented. So not only we're trying to deal with all the challenges that you have to put up with, you also got you to deal with as well. (Jonathan, 473-478)

Jonathan talks about the changes psychosis brought on in relation to his identity. He explains that there have been important changes to his identity associated with his experiences of psychosis and with mental health services. He portrays the change in identity as an added burden. He describes himself as other; a foreign addition to his life. This may be related to a reluctance in adjusting to the changes in his identity, accepting these changes could make them permanent, in turn leading to the loss of his previous self. While mental health staff will leave his side at some point, if he accepts this new identity, it will remain with him throughout his life. Accepting this change would result in him living with two selves, one he lost and one he is transitioning towards. In time, it may even lead to losing the known self and internalising the one brought on following psychosis. This reluctance is further illustrated by the choice of pronouns and linguistic characteristics of the extract. He begins by owning the

experiences and acknowledges that his current self is a changed version of the one he has always known. When he starts talking about the differences brought on by change he switches to 'you', thus, distancing himself from the transition he does not want.

Whilst changes in the self are not completely unusual, the imposition and lack of agency in the context of psychosis are key. Therefore, people must not only adjust to the existence of psychosis, but also to all the changes that come with it. Indeed, all participants who were either studying or working had to stop following the onset of psychosis. This often led to people contemplating what their life would have been had they not experienced psychosis.

Luke provides a clear account of having to let go of his work ambitions following the onset of psychosis; 'High hopes of doing things [...]. After that I kinda tailed off with that' (Luke, 94-96). Luke was working when he started experiencing psychosis and there is a lot of ambivalence in his accounts as his psychosis experiences are closely related to his work. On the one hand, he believes he can be very successful in his work, but psychosis is keeping him from doing so. On the other hand, he explains that his experiences might result from him not being able to cope with work in the first place (see extract, lines 233-244 in the second subtheme of multiple realities). There is therefore this added layer of negotiation for Luke where he is untangling the link between work and psychosis and the role they play in his life, and their effect on his identity. Independently from this underlying explanation, Luke presents a loss of hope to succeed in the life he once had planned for himself. Similarly, Josh talks about his life before psychosis with a sense of regret, longing for this lost life; 'I wish, I wish all this hadn't happened and that I'd continued at college' (Josh, 518). Craig also recalls the days he was working with a sense of nostalgia, he remembered the fun in his work life and social relationships; 'There was some carry on I tell you [laughs]. We had as few laughs; aye it was good.' (Craig, 371).

This sense of loss and closure attributed to participants' pre-psychosis lives were shared by most. Several participants explain a transitional phase where they are leaving part of their identity behind and are trying to create a new one that would be compatible with psychosis. This transition into a new life is negative compared to previous identities. In the extract below, James speaks to issues of a loss of life and

identity:

Ehhh I feel as if my whole life is just kinda collapsed really, starting again maybe say in square one looking for employment in coffee shops and restaurants. Which is what I probably would have done if hadn't went to university in the first place. (James, 411-414).

James explains that his life 'collapsed' which resonates with the previous quotes in explaining this social rupture and loss. He is now at a stage where, after 30 years, he is considering starting over, not by going back to finish university, but to work in the service industry. Thus, he will not be picking up where he left, but even further aback. This suggests that he has done a certain level of renegotiation and reached a level of acceptance so he can move on with new re-focused expectations for his life. Both the acceptance and the new expectations took him a long time to achieve. Most participants in this study are yet to make this transition.

Time is an important concept that came up for several participants. Different aspects of time seem to be key in relation to psychosis; psychosis takes time away from people's daily lives, where they cannot productively focus on anything else, indeed, 'I thought as if my life was just, wasting away really' (James, 63). Further, participants describe that psychosis lasts a long time; 'rumbles on for years and years' (James, 74). It can also be said that adjusting to psychosis being in their lives and changing their identity also takes time. At the time of the interview, Patrick had accepted the change and rebuilt an identity, Patrick was no longer in contact with mental health services. He talked about growing from his experiences of psychosis:

The whole thing has been life changing, it's been, the whole experience changed my life it has changed my outlook in life it changed me as a person I can't explain, it's changed the person I was and where I was. I was very successful, career orientated, doing very well and I ended up in a mental hospital being sectioned, I gave up my job [...] But it has changed relationships, I changed the way I view things, it changed me as a person fundamentally ehm what exactly I couldn't say in a five-minute interview what has changed but definitely big changes, I am much more appreciative of things. (Patrick, 441-454)

Here, Patrick describes having grieved his former self and renegotiated a new self thereafter. When explaining this transition, he strongly focuses on his identity shift that resulted from psychosis. He portrays it in a positive light, which suggests a high-level of acceptance and normalisation.

8.2.2 ‘I’d like to have been listened to’: Changes in social identity

For all participants, the perceived loss of control over their social life and social identity was an inevitable consequence of psychosis. All participants came in contact with mental health services at some point after the onset of psychosis, therefore they faced external perception of their experiences and identity. Jonathan explains that psychosis can be perceived in two ways; in that there is a personal and a clinical side. He verbalised something shared by all participants when they come in contact with mental health services. This dichotomy in perception relates not only to experiencing psychosis, but also experiencing psychosis in society. Jonathan provides a very insightful account of this:

One is your own personal experience of what is going on. And then the second side of it is the clinical side of psychosis is the treatment and how you're dealt with in relation to how unwell you are. And that's how I can separate the two, so from a personal perspective nothing's changed, [laughs] in terms of what I've experienced before and after nothing has changed. Whereas from the other side, the clinical kind of side, everything has changed because you weren't on the radar because you weren't showing any of this or doing any of that. You almost get put under the spotlight so you, you don't really change but you get changed by the process of what you're involved with. (Jonathan, 276-287)

Jonathan explained that on a personal level, his perceptions, and understanding of his experiences have not changed. However, with the involvement of the mental health team, he now feels like he is under scrutiny. The involvement of the mental health team in his life created a change in his social identity. The nature of the input received and how the mental health team perceived people's experiences and what their lives will be as a result seems to be key. External perceptions affected people's transition into a new social identity following psychosis. For Patrick, this was evident

in relation to his working life. He was working before his psychosis and this was a key component of his identity. The extract below illustrates the reaction Patrick received when he mentioned he wanted to go back to work following his release from hospital:

The doctor, the first time when I had my first psychotic episode, she had said to me ‘what is it you want to do when you get released?’ I says, ‘I want to go back to work, I want my life back together’ and she said that most people with the severity of psychosis that I had don’t ever to go back to work and I had said to her ‘well I’ll be going back to work’ and this was a restriction and this then became a challenge. (Patrick, 656-664)

Patrick refused to accept this restriction of not being able to go back to work, instead, he challenged himself to start working again. It is likely that these strong statements, coming from mental health professionals in positions of authority can result in people accepting that outcome. People can internalise that they are unable to construct a new life of which working would be an important factor. This internalisation may lead to isolation. Patrick later explained that, not only are people advised against work and therefore live a ‘non-life’ (Patrick, 654), if they decide to go against this advice, little support was made available. Not being in employment, and perceiving oneself to be on the edge of society, seems to be key in perpetuating distress. This restrictive approach could result in people having bad psychosis experiences by pushing themselves too hard. Patrick went back to full-time work shortly after he was released from hospital. He reflected on his return to work stating: ‘that’s when I should have had a phased return to work’ (666). He explained going back to work too quickly and pushing himself, this led to another episode, thus creating a cycle that could have easily led him to feel too discouraged to try again, further hindering his ability to negotiate a new personal and social identity.

This imposed restriction seemed to be the case for most participants. Patrick was the only one that had returned to work after his diagnosis, the others had not been working for between 5 and 30 years. For most participants, being able to do something as part of society was presented as unattainable. James started volunteering after nearly 30 years of not working. This was a crucial step towards his transition into a new social identity:

I feel as if I am actually doing something, rather than doing nothing. As I said before, there is a feeling of dignity by even just volunteering a couple hours a week. Which otherwise you would never really experience. The problem is as I said before, unemployment, apart from the initial 5 or 6 weeks, where it's a bit of a novelty, the novelty soon fades away. And if you try to live within the limits of the benefits, you are not really living a very good life. Whereas if you get a job you've got more income and you also get that social role which allows you to feel a bit of dignity. That's why we look for a job. (James, 246-255)

James explained that volunteering allows him to feel like he is contributing to society which is making him feel a sense of dignity that he had lost after quitting his studies. His social and personal identity are therefore intertwined where he feels his self-worth to be closely related to the social role he gains by being able to work. It is possible that the lack of structure that comes from a non-working life may shift the focus on being ill and incapacitated, leading people to feel stuck and hopeless.

Another component that was identified by multiple participants was that often, mental health professionals dismissed them and did not listen to their experiences on the grounds of their psychosis. This further diminished people's social and personal identity. They are put in a position of not being able to contribute to how their first-hand experiences are conveyed and therefore received. Further, because of being deemed too unwell to be listened to, people were also not involved with the decisions made regarding their own treatment; Josh stated 'I wasn't informed. I was just given medication and left to my own devices' (552-553). He believes that he went to hospital so often because of this lack of information. Perhaps the most descriptive account of this loss of social identity was provided by Patrick who felt 'written off' (537) when his ability to contribute to his own wellbeing was removed from him. He later described:

I'd like to have been told more, I'd liked to have been listened to, that's it. I'd like to have been listened to you know, and, even if someone spent half an hour with me and let me speak and then told me 'this a lot of rubbish', that would have been fine but to not actually let me speak and tell me this is a lot of rubbish you know, 'you are not making sense' you know, 'but you haven't heard what I had to say' so that would have been a big driver. (Patrick, 611-617)

Patrick felt very angry, disappointed and disrespected for not being listened to. He was frustrated to have been dismissed without being heard at all. These were his experiences, only he knew exactly what they entailed and how they made him feel, this insider knowledge and his desire to contribute to his care were denied. This dismissal can be perceived by participants as a statement of a transition into a reduced social status and identity. In summary, both by discarding people's ability to reintegrate into a working life and disregarding their stories, people can be made to feel alienated by the mental health system, thus unable to reconstruct a social identity, or to contrast a perceived diminished and incomplete social identity. This view was taken to the extreme by Alan who believed that his experiences of psychosis were programmed by society because he did not adhere to social expectations. He therefore carried a lot of anger towards the mental health system and believed that society suppressed people's beliefs with medication. He described psychosis as an additional 'self' and quickly focused on how this was suppressed and disregarded; 'If you require to come out of yourself, be two selves they are not interested they give you drugs. The drugs put you in a false sense of security.' (Alan, 249-250).

On the other hand, people who were given the support and audience they sought, stated this was vital to their meaning-making and transition into a new identity. The involvement of mental health services in people's lives came with increased scrutiny, added expectations and numerous appointments. Although these additions can be overwhelming, people explained that a communicative environment made it easier to move forward in constructing a new social identity. Moreover, this may help reduce distress people feel in relation to their experiences; this was illustrated by Josh:

I think talking to people about my problems; a problem shared is a problem halved, the expression is. Also, informing my CPN or my psychiatrist on how I am feeling, how I am doing. (Josh, 277-280)

Sharing what he was going through and making his personal experiences available to others helped Josh move forward. Jonathan also had a team of mental health professionals working closely with him. He explained the ups and downs of adjusting to all the changes and transitions that can occur after leaving hospital. He therefore felt the support he received was needed and he appreciated its availability

when rebuilding his identity and his life. He appraised this time as an adjustment period and considered that the team was there to make this transition smoother; ‘When you are in crisis and you are very vulnerable, I think it's very important to have that support because things can shift and change quite quickly’ (Jonathan, 560-562). Jonathan also explained how transient and delicate things can be at times of adaptation, thus further emphasising the role played by mental health services in helping the development of a new social identity. All the participants of this project encountered mental health services in relation to their experiences. Mental health services can therefore be support mechanisms or further perpetuate distress by dismissing people’s beliefs and perceptions.

Psychosis creates a break and imposes a change to a person’s life and identity. For most participants, there is an intense sense of loss; they look back and reminisce about the lives they had that suddenly and unexpectedly were taken away from them. They all portray a sense of nostalgia for what they once had as they had to watch the life and the self they knew crumble under the imposed long-term power of psychosis. Accepting this transition meant that they had to accept the loss of their previous identity, possibly for good. These adjustments and negotiations are further amplified when people also consider their social identity, mainly in relation to how they are treated by others. The social identity that people transition towards overtime depended on the social context their experiences were received in. When people felt they were dismissed, isolated and deemed unable to reintegrate into a social working life, they felt stuck and hopeless therefore maintaining elevated levels of distress. Supportive environments, on the other hand, seemed to be beneficial in the reduction of distress related to their experiences.

8.3 Living in Fear

Some participants explained that the content of their psychosis was frightening. Further to the content itself, most participants were also afraid of psychosis getting stronger and leading to acute symptoms that in turn may lead to hospitalisation. People had negative experiences of hospitals and were therefore very keen to avoid going back. Finally, people were afraid of how they would be perceived by others and considered the potential consequences of their behaviours on loved ones. It is likely that people's fears over various aspects of their psychosis experiences are exacerbated by their sense of not having control; of being controlled by psychosis.

8.3.1 'I am terrified': Psychosis is frightening

Participants talked about being afraid of the content of their experiences of psychosis. Specifically, the content of delusional and paranoid experiences made people afraid for their safety. Craig felt a lot of fear around the beliefs he held:

Terrified, I am terrified, I'm fearful it starts off with feeling a little bit fearful and then I get terrified and I just can't move. Like I say I start sitting and I'm just rigid, I don't know what to do with myself. I feel like I'm never going to get up again, I feel like I'll never be able to move again because I am now rigid with fear. And you know, that's just absolutely terrifying. (Craig, 180-184)

He talked about the physical impact the fear had on him, he was no longer able to move, stuck with fear. Patrick gave a good description of his fear as a definition for distress:

M: How would you define distress?

P: Terrifying. Absolutely petrifying I was scared to go to sleep at night really aye yes.

M: So, distress in psychosis is something that you would define with fear?

P: Yes, yes I got so bad they ended up putting me in a room on my own.

M: What were you afraid of?

P: Getting killed, quite literally. I know that sounds ridiculous, you know people in the next bed you know it's like Jeeze. (Patrick, 261-276)

Patrick's account of his experiences and the fear attached to them is also related to the content of his beliefs. At the end of the above extract, Patrick states that his fears sound 'ridiculous' looking back, but at that time, he was overwhelmed by their strength. Amal portrays a very similar fear to Patrick's, describing her experiences to be very negative and she was very clearly afraid for her life as a result:

All the bad things, all the bad things and fear because now I have to hide somewhere because they are outside this window, they will see, guns these are just they can see through the walls, they can shoot me through... the guns it was a fear also. I don't know how I coped if I now know it is a reality I think; I don't know how did I cope how did I survived that episode. (Amal, 248-253)

She focused on the content of her experiences, describing the content of her beliefs. This focus on the content of psychosis experiences is unique to fear; at other times in the interviews, people talked about their experiences more generally, focusing on the distress associated with their experiences and its effect on their lives as opposed to the content of their symptoms.

Aside from the content of psychotic episodes, people were concerned by the unpredictable nature of psychosis. This brought out a fear of their episodes increasing in frequency, intensity and duration. The fear people experienced was amplified by their inability to control their experiences (see 8.1 for more on people's perceived lack of control). Throughout the course of his psychosis, James had short episodes approximately three times a day; the possibility of his symptoms increasing was a particularly daunting concern for him:

I just had that sinking feeling that you know if the symptoms get much worse I will be in a bad way, you know. Ehh if the periods extended to hours and hours and weeks on time, I was thinking, hope this illness doesn't go worse as time passes. It is bad enough as it is. I can't have these symptoms 24/7. I could lose my mind altogether. Develop acute symptoms [which did not happen]. No, we had episodes and as severe as they are, I do understand there are some people that have to be put to hospital cause their symptoms are very very acute and I was saying that 'oh god not me' [...] But that never happened it never became that acute that I needed hospitalisation. (James, 187-198)

James was afraid that with time, the duration of his episodes may increase. If his episodes lasted longer he could end up not having any time where he is not experiencing psychosis. Two peripheral concepts that transpire from this extract are related to James' acceptance of his lack of control over his experiences (see 8.1 on lack of control), and fearing a loss of sense of self and identity (see 8.2 on change). The increase in duration and frequency of his experiences would mean his psychosis may become acute and lead to hospitalisation. This was something James worried about greatly.

Nearly all participants portrayed a fear of hospitalisation, which was related to severe symptoms and being acutely unwell. In most cases, people had bad experiences at hospital. On one occasion, Josh called the police in relation to an unusual belief but then decided not to disclose anything because he 'didn't want to end up in the [psychiatric hospital] or anywhere like that' (452). Josh has spent a large amount of his adult life either in hospital or in supported accommodation; 'And I don't want to be yo-yoing back and forth into the [psychiatric hospital] all the time. I've had so many bad experiences there' (Josh, 266-269). Comments such as this illustrate people's negative feelings and experiences about hospitals. Alan spent time in hospital in the 1960s when ECT was commonly administered. Looking back now, he believes the 'so-called experts' (178) caused him brain damage. People were often taken to hospital involuntarily, staying for long periods of time. This reticence in going to hospital may also be related to a fear of isolation from their social settings. When taken to hospital, people are removed from their known environment and isolated from the people in their lives; 'we lost contact for many years 'cause I lost contact with all my friends family and whatnot being in the [psychiatric hospital] so often' (Josh, 392-395).

Although negative feelings about hospitals were dominant in the sample, Amal had the opposite perception. For her, hospitals provided a reality check, they represented a safe haven where she would get better:

Ok, she [the doctor] is right that's my illness, yeah. I suffer with this illness, it's coming back that is good and now she will make me better' I think it's the comfort that you are in a safety zone. I am safe here and she is doctor. Because all my psychosis I was worried about my safety as well or someone else not a safe environment nothing will

happen in a hospital, it's safe. (Amal, 56-61)

For Amal, the hospital seems to block off all the negativity and fear that comes with psychosis. Amal's psychosis experiences are closely related to her home life and the difficulties she has with her husband, his family and the pressures for her to lead her life a certain way. She strongly believes in the hospital's safety; it can be suggested that in her view, psychosis cannot penetrate the walls of the hospital. Amal is a medical doctor by training, which probably plays a key role in her experience of hospitals and how she feels about them. Similarly, her strong belief in the hospital can also be associated with a need to further relinquish control to a trusted professional.

8.3.2 'They are looking at you': Fear of others' perceptions

People also expressed fear over the consequences of the actions they may undertake when controlled by psychosis, specifically relating to how others perceive them. Most participants were reluctant to share their experiences with others, from fear of how they would be perceived. Similarly, people were afraid of how their behaviours were perceived by others; Phillip gives a good example of this fear from when he had a psychosis episode in a very busy place:

Um but uh psychosis I think is not only frightening for the individual it is frightening for other people as well. Because, I ended up; I became psychotic in London which is not a very nice place to be when you have got loads of people around, uh, because they are looking at you – you think that they are eh eh eh, you are seeing things. (Phillip, 30-34)

At that time, he not only had to deal with what he was going through, but he was also dealing with feeling like he was being watched. He was convinced that others were looking at him, and seeing him unwell. This reticence to be seen during psychosis may be associated to people feeling that others are not supportive or understanding of their experiences. Phillip's reaction may be understood as self-stigmatising behaviour where he felt people were judging him.

Later in the interview he once again mentioned the fear he believes to have caused in others; ‘So, I think if you spoke to anyone else they would say that, not only do you find you’re frightened, but other people get frightened too. Very frightened’ (Phillip, 114-116). Thinking of others’ perceptions and reactions to one’s experiences adds an additional level of awareness. This can be distressing for the person that not only needs to deal with what they are experiencing at the time, but also how they come across. Moreover, some people became isolated because of their psychosis experiences. Participants suggested a few reasons for this isolation; some have difficulty understanding what they are going through and what it means. Therefore, it is difficult to share and include others in their experiences. Others feel shame in what they are going through and fear people’s reactions.

Phillip had been in touch with mental health services for a long time before he disclosed his visions: ‘Also, because you don’t want to admit to other people that you are actually seeing real things. My diagnosis was not made complete until quite a long time later’ (Phillip, 26-29). Disclosing his visions was too difficult; he mentioned he did not want to ‘admit’ their existence, which may be associated with shame. His secrecy resulted wrong diagnoses and treatment, however, he still chose not to disclose his hallucinations. The shame and the fear of others’ perceptions and reactions was too strong. Thus, shame may perpetuate the beliefs that psychosis experiences are a problem people attempt to hide instead of understanding, and a lack of knowledge about psychosis puts people in a position where they cannot seek support.

In addition to a fear of others’ perceptions, people also expressed fear in relation to the potential consequences of the behaviours they do not have control over. Craig talks about this fear in relation to others in his life, where, he is afraid of doing something he will regret: ‘Something that I might do. In that case I feel like I might do something silly and then live to regret it so it's not that I want to do anything but it just feels that way’ (Craig, 201-203). Craig is afraid of what he might do, without his control, when in psychosis. The fear of doing something he will have to live with increases the distress he feels in relation to his experiences. His fear is strongly related to his worry of others’ reactions and how he would explain and justify his actions:

I'm just scared of what might happen if something actually happened. How am I going to explain it how am I going to control it? [...] I think I've got over that side of things but, but I honestly just, I just think if I do do something silly; how is it going to affect me and those around me? (Craig, 473-485)

Craig describes fear, worry and shame about something he has not done, does not want to do but cannot be certain he will not do when experiencing psychosis. Luke explained that he started taking medication because of similar concerns:

I realise that if I didn't take the medication which would help me with that, help me with being paranoid and thinking people were out to get me. Then if I didn't take the medication I reckon I would have ended up, anything could have happened. So I was really worried at that time, so I decided to start taking the medication again after about 5 years. (Luke, 81-87)

Luke was not compliant with medication for a long time, but the fear of his illness was worsening and the potential consequences of his behaviours during psychosis experiences convinced him to take the medication. Indeed, in his narrative, it comes across as he is taking the medication as it provides a safety net against what he cannot control.

This theme highlights people's fears related to their psychosis experiences. For the participants in this study, fear is divided into four categories; first, participants feared the content of their psychotic beliefs. They described fear for their lives as their beliefs were related to people trying to hurt them. Second, people were afraid of their experiences increasing in frequency, intensity and duration, potentially leading to acute symptoms. This caused fear, not only because they have no control over the trajectory along which their experiences will unfold, but also because it may lead to hospitalisation. All the participants in this study spent time in hospital due to psychosis, and excepting Amal, all had bad experiences and were dreading the thought of having to return. Third, people internalised others' perceived feelings and reactions to their experiences. At times, people chose to hide their experiences from fear of what people may think. This secrecy led some people to become isolated. Another reason people isolated themselves was related to their fear of doing something that may be

harmful and regretful. The possibility of doing something under the influence of psychosis and the social consequences that may have been very distressing for people.

8.4 Multiple Realities

People described perceiving multiple realities as a result of their psychosis experiences. One reality that is shared with others, and another that is added onto the first one by their experiences of psychosis. How others reacted and interpreted people's experiences and their added reality were once again very important to how participants made sense of their experiences. This led to participants experiencing an *ontological dissonance* that emerged from the differences between people's perception and how they perceived others' understanding of their experiences. Once more, the imposing and unpredictable nature of psychosis meant that people felt like they were not in control of the changes and added realities they were experiencing

8.4.1 'I was conscious that I wasn't in a different location': Experiencing multiple realities

Participants talked about their experiences of psychosis as being very real to them, so much so that they were often intertwined and indistinguishable from the reality participants shared with others. People explained that although they can be aware that what they are seeing or hearing are not necessarily the reality shared by others, however at the precise moment, it is overwhelmingly real, which can occasionally lead them to act upon that reality.

James explained that when experiencing a visual hallucination, he knows that the location he perceives himself to be in is not where he physically is – for example, 'a 300-year-old living room' (16-17) when he knows he is in hospital. He feels as if he is 'moving to a different location' (12) and is 'actually seeing something there' (13). There is a strong focus on movement in the way James describes these experiences; 'I would feel differently inside [...] like something inside was moving' (61-62). He associates this to the loss of one of his senses; 'my vision came back again' (18). These quotes emphasise an understanding where he is attaching his experiences to his physicality. This may be an attempt to ground his experiences in something more

concrete and tangible, rather than relying on his beliefs and perceptions. In a similar attempt, Craig used a more extreme outlet; he hit his head on the wall: ‘to knock thoughts out of my head’ (466). This draws a clear connection between the physical and the mental where he is inflicting physical pain in an attempt to force unwanted thoughts away. Both James and Craig show clear efforts to make sense of their experiences through the tangible body. It seems as they use the body as a vehicle to make sense of multiple ontologies. The spatial dissociation James experienced is what led him to seek support:

Because I was conscious that I wasn’t in a different location. But when I perceived reality, it looked like a different location. Even in my book I would call that psychotic symptom. I present myself to the psychiatrist and asked for tablets. (James, 31-36)

This is a good example of the discontinuity and imposed distraction brought onto James’ life by psychosis. It is clear that James is not only aware that his experiences do not match normative reality, he is also very distressed by this. By saying ‘even in my book’ he shows an awareness of differences in perceptions when it comes to his experiences and acknowledges that his experiences deviate from others’ experiences and expected social norms. Although James explains knowing that his experiences were a result of psychosis, he describes being perplexed by their strength:

It’s still puzzling what was happening there [pause]. I mean [pause], I do understand that is psychosis. A kinda break with reality as you might call it, define it. That’s what was happening basically – [mumbles] nobody else could... (James, 22-26)

And later....

I was aware that what I was seeing wasn’t there, but it just looked so real sometimes. (James, 91-92)

He grounds his understanding of psychosis as a ‘break with reality’ (24). He also says ‘as you might call it’ (24) this begs the question as whether that is how he feels about his experiences or that this is how other people defined it to him. Although he knew his perceptions were not real, this was not enough to disregard the strength of his beliefs

as he describes being ‘puzzled’ (22). This further highlights his perception of there being multiple realities. The image of reality provided by psychosis is portrayed to be stronger yet intertwined with normative reality, leading people to experience what can be termed an ontological dissonance. The strength of these experiences and their ascendancy over people’s own perceptions is eloquently described by Phillip:

Well, psychosis is a very frightening experience because uh what you actually see is what you believe that you are seeing. So it’s as if so everything, it’s not like taking any other med... any other illegal drugs or anything like that because your brain is aware of the fact that you are seeing something that you know that you’re actually in an altered state of mind. So, it’s similar to that, except, you are actually seeing what you are seeing and because you are seeing what you’re seeing you’ll act upon it. Quite naturally. (Phillip, 12-19)

In the above extract, Phillip compares experiencing psychosis to being on drugs. This comparison is based on the level of awareness, where with drugs the person’s perceptions are altered, he explains that this is also the case in psychosis however, without the drugs, a safety barrier is lifted and there is not a tangible explanation for his experiences, which renders them more difficult to dismiss. So there is an added reality that participants don’t have any justification or explanation for. He finds this very frightening, and ‘unpleasant’ (114). Unlike drugs, he has no way of knowing when the effects of psychosis will dissipate, this is likely to heighten and perpetuate people’s perceived lack of control over their experiences. Later in the interview, Phillip talks again about his perceived *ontological dissonance* and reiterates the strength of his beliefs despite this awareness; ‘So, you are thinking well uh this can’t be right, this can’t be right, but then you are acting on what you are visually seeing [yeah] so that is very distressing’ (Phillip. 126-127).

His awareness of experiencing multiple realities is expressed by his physical senses that push him to act upon his visions instead of his beliefs. He explains these differences in perception and the strength of the reality brought on by psychosis, combined with an inability to act upon them, as being very distressing. Interestingly, throughout both extracts, Phillip only used the pronoun ‘you’ (e.g. ‘you are seeing’) when explaining his experiences; the use of an objective pronoun can suggest an effort

to distance himself, and this may also be a way of normalising and generalising his perceptions of multiple realities when experiencing psychosis.

In addition to the strength with which participants perceive reality brought on by psychosis, people also describe a level of fluidity associated to their perceived multiple realities. This is clear in Phillip's comparison of psychosis and drugs where there is a continuity between a lucid and an 'altered state of mind' (17) that is induced beyond his control. Amal also focuses on the overwhelming reality of her experiences and the merger between these experiences and the normative reality:

It is very real. The first thing is there's a time when you know that you are in reality and there's a time when, I have seen before going into psychosis each time there was a period where I was lost and I'm standing, I'm not concentrating in the present. But it's very real, I could see people, I could believe, I could hear those voices and it's like a movie what thought and for my psychosis my own logic, simple logic was exaggerated. (Amal, 4-10)

And later...

I think there is always a truth platform; the things are real but they're more exaggerated in the psychosis and you become a part of that. (Amal, 12-14)

She reflects on the signs that emerge when she is drifting into a psychosis episode. Amal talks about her experiences as continuous from reality, as a more exaggerated version of her everyday life. She also uses the word 'surreal' (93) to emphasise an addition onto normative reality; a mixture of reality and fantasy. She provides a good example of the fluidity between non-psychosis (or 'normal') and psychosis states; one aspect of her psychosis experiences was a belief that her son had turned into a bird. Shortly after a psychotic episode, her son came to see her, and she recalled the event saying: 'he was not a bird anymore' (32). The use of the word '*anymore*' in that context suggests that she believed that her son had turned into a bird but was again human, which further attests to a sense of continuity and fluidity between perceived multiple realities.

8.4.2 ‘The second side of it is the clinical side’: Exploring external perceptions of one’s realities

All participants that talked about questioning the legitimacy of their experiences also talked about external perceptions of their reality. Participants described a perceived ontological dissonance in relation to how their experiences are perceived by others. People explain that, not only are they trying to make sense of what is happening to them, but they are also trying to incorporate and deal with external reactions and interpretations to their experiences.

For Jonathan, sharing his experiences with the mental health team and his friends and family meant that alongside the help they provide, this also added challenges as people were contesting his individual ontology and therefore his ontological security. This put him in a position where he needed to weight his perceptions and deal with them in relation to how others perceive what reality should be:

Even now, that leaves me really perplexed because; do you go with gut instinct, your eyes in terms of what you can see? Or do you go with family members that go: “oh there's nothing there!” Or like every IHTT member that is like ‘what are you seeing?’ and ‘where is it?’, ‘Can you point it out to me?’, and then clarify that there is nothing there. That over a period of time gets very frustrating because not only you're trying to deal with this in the best way that you can, there is almost a sense that what you are experiencing is instantly dismissed. (Jonathan, 391-398)

Jonathan is confused by others’ expectations of him. He explains that people disregard his perceptions on the grounds that they do not perceive them. However, Jonathan struggles with the understanding that reality is dependent on external acceptance. Jonathan is angry about people’s questioning of his beliefs and experiences. His distress results from having to justify this dissonance:

One that I get bemused by constantly is, I get questioned about my beliefs and why I think things but how I see the world and how I'm responding to the world is no different to someone who follows a religion and I find that really fascinating. (Jonathan, 878-881)

Luke also explains the dissonance between his beliefs and other people's beliefs and expectations. He describes being in a position where he had to defend his beliefs and prove them to others:

I still believe the distress comes from some kind of difference of, belief in philosophy between me and any number of other people out there. I sit there hearing a voice in my head saying 'prove it, prove it, prove it' from certain people and it is just like trying to prove there is a God, trying to prove that this strange thing is real that there is something to it you know. And it just, if that works on me causes me quite a bit of distress and you know, I sit here and I think: it's either real and people aren't expressing themselves the way they should or it's all made up in my mind, just I have created a whole strange world for me to occupy because I can't cope with work. (Luke, 233-244)

Luke explains the source of his distress associated to psychosis to be caused by differences in perceptions. He is aware that his perception of the world is different to other people's; therefore, he feels the need to justify and 'prove' his beliefs. By comparing people's expectations from him as having to prove there is a God, Luke alludes to the impossibility of the task at hand. He needs to justify the existence of something omniscient; his beliefs and the reality he perceives. Both of which are not tangible to others. Further, Luke seems aware of this ontological dissociation. This is evident when he later says about his experiences: 'either may be real or may not be real, but I am taking them as real and I am going to go for it' (700-701). He is aware of the different hermeneutic possibilities and chooses to believe them despite his awareness of them being 'all made up' (243) in his mind. This may be his way of coping with his experiences as his choice of accepting his beliefs allows him to resist the psychiatric gaze, thus undermining others' perception that his beliefs are dysfunctional.

Jonathan and Luke's hermeneutics of the self and ontological beliefs allow them to resist others' interpretations of their experiences. They both challenge the idea that they need to justify and prove the legitimacy of their perceived reality because it does not fit into societal expectations and wider understandings of reality.

For both Luke and Jonathan, as well as other participants, their distress emerges from the strings attached to their diagnoses. Because they are seen as having psychosis, their beliefs are discarded by others. Jonathan clearly states his disagreement in the following extract:

So I kind of from my standpoint, from where I'm sitting, I don't suffer from schizophrenia because what is there is there and that is my experience and my understanding of that and someone else saying that that's not there; it's quite a strange thing to even wrestle with. (Jonathan, 367-372)

Here, Jonathan shows that he is making sense of dissonant ontologies in a way that allows him to resist his diagnosis. Both Jonathan and Luke's understandings and ways of dealing with their experiences highlight the importance of, not only investigating and understanding people's beliefs and perceptions, but also the role others play in people's understanding and acceptance of their psychosis experiences. This dissonance between their beliefs and others' expectations seem to be what creates distress. Phillip talks about how he considers his behaviours in the eyes of others:

Also um, the fact that you know that your behaviour is odd or you perceiving that your behaviour is odd and other people are going to see your behaviour is odd. But actually they don't necessarily see that at all [right]. Because it's only your perception. Because its only your own perception, your perception of what distress is which you hide from other people that you feel, not other people, unless you do something to act - physically or verbally do something to actually cause that. So you could be very distressed but other people not distressed at all. But you feel that other people are distressed at your behaviour. (Phillip, 126-137)

Phillip explains feeling distressed in relation to how others perceive his experiences and his behaviour. While he is aware that others may not even notice what he is going through, the possibility that people may actually see what is going on is very important to him. Participants suggest that their diagnosis assumes the dismissal of their beliefs. This in turn pushes them to cling to their reality while also being aware of the existence of a normative reality. The presence of this dissonance brought on by the involvement of others seems to create and maintain the distress they relate to their experience of psychosis.

Unlike the other participants that talked about reality, Amal finds solace in mental health professionals' perspective in understanding her experiences. This is illustrated by the following extract; 'When someone tells me that's not real you are in psychosis, I am relieved ok mine was very negative, very traumatic, very horrible so it's not a pleasant thing' (Amal, 28-30). And later:

That's the point, once I'm in a hospital I recovered like this [Amal, snaps fingers] [M: all of the time?] all of the time. Second time there was no medicine, just in the hospital, just in an environment which people live in care you, you just go and eat breakfast, someone cooks for you, you go and eat lunch and you can have tea coffee in a very healing environment and second time there was no medicine and I recovered. But people who understand you, people who listens to you, or a company maybe. (Amal, 277-284)

Amal finds her psychosis to be profoundly disturbing and traumatic so when experts tell her that her beliefs are not real, she embraces this with great relief. She describes the hospital to be a safe space and finds people to be caring and understanding, which seems to be sufficient for her to leave her unusual beliefs behind. This is an uncommon approach as other participants repeatedly mentioned negative experiences about their time in hospital. This may differentiate people who are distressed by the perceived ontological dissonance brought on by psychosis and people, like Amal, that seem to be distressed by aspects of their experiences of psychosis independent from others' interpretations.

To summarise, in this theme, people describe experiencing multiple realities. It appears that people's experiences are more similar to a continuity amongst these realities. Further, they experience an ontological dissonance where the reality experienced during psychosis does not coincide with the perceived normative reality. Another interesting aspect that came out of the first subtheme is that people stated a clear awareness of their multiple realities. This was however not enough to discard their content, as psychosis experiences were too strong to dismiss. People's experiences of reality were also put to the test by both their loved ones and mental health professionals. For people who maintain multiple realities, a diagnosis can in itself create dissonance, as people are then expected to justify and attest to the validity of

their ontology and are subsequently dismissed because they do not fit with normative expectations. External perceptions of people's realities can therefore be a source of distress for participants. On the other hand, it can be suggested from Amal's experience that some people may feel distress associated with the perceived multiple realities independently of others' perceptions and benefit from others perspectives to resolve this multiplicity.

8.5 Study 2 Discussion

8.5.1 Introduction

This study set out to investigate people's appraisals of their experiences of psychosis in relation to the distress they experience. Following an in depth analysis of the transcripts, four themes emerged from the data. These are; lacking control, change, living in fear, and multiple realities. They are inherently and deeply intertwined and they all influence each other. The nuance and variations observed amongst participants and within the themes further illustrate the variability and multidimensionality of experiences and beliefs that can lead to distress related to psychosis experiences.

Quantitative inquiries found that people's understandings of their experiences are not associated with the content of their experiences, but the beliefs people hold about them (Chadwick & Birchwood, 1994, 1997; Chin et al., 2009). Indeed, when asked about their experiences of psychosis, participants of this study focused on their beliefs and appraisals of their psychosis experiences rather than specific symptoms. The clinical research literature on psychosis seems to be taking a different direction by using a single symptom approach to investigate distress (Davies, Griffin & Vice, 2001; Vaughan & Fowler, 2004; Startup, Freeman & Garety, 2007; van Os et al., 2000). This approach can be helpful in gaining a better understanding of individual differences and specific experiences of psychosis. It is also helpful to move away from the diagnostic approach which is widely criticised on its validity and reliability (Cuthbert & Insel, 2010; Read, 2004). However, focusing on specific symptoms may cloud understanding of people's appraisals of their psychosis experiences. The experiential findings that emerged from this study suggest that appraisals of psychosis need to be understood in terms of the overall experience; including meaning making, being diagnosed with and being treated for psychosis. The findings of this study also suggest that appraisals are closely related to external perceptions of people's experiences as well, thus people's networks are important in dealing with distress related to psychosis experiences. In order to reduce distress related to psychosis experience, the attention in treatment should be given to the negative appraisals people hold of their psychosis experience.

The current study provides a nuanced and holistic representation of people's appraisals of their psychosis experiences. The four constructs that emerged from

analysis overlap with each other to constitute people's experiences of psychosis. They have been presented in themes as a function of analysis, thus making sense of them in isolation from one another should be done cautiously. Control is presented first as it influences all the other appraisals. Participants' negative experiences are made worse by their perceived lack of control. It is therefore key to tackle perceived control to reduce distress related to psychosis experiences. Next, change and the re-negotiation of personal and social identity is presented because of its fundamental and existential impact on people's functioning. Fear is presented third as it is heightened by components of both change and perceived lack of control. The multiple realities theme is presented last as it explores a fundamental aspect of psychosis experiences, thus rounding up the analysis.

Appraisals identified in this study were all composed of two dimensions; one internal and one external. The internal dimension relates to how people appraise and deal with their experiences, while the external dimension relates to the interpersonal aspects of people's appraisals. The inter-personal interactions people described highlight the role of external input and influences on individuals' understanding and dealing with their experiences. Depending on the nature of the interactions people engage in, the perceptions and reactions others have may lead to negative emotional experiences and further heighten distress (Chadwick, 2006). The data generated represents the impressions, perceptions and understandings participants had of their interactions. No assumptions can be made about other people's thoughts and perceptions.

The themes presented in this chapter are supported by and reflect on concepts that have previously been explored in psychosis research. This suggests that these are common difficulties people experience in relation to psychosis. The findings of the current study expand on previous quantitative research, using the AANEX interview, focusing on people's appraisals of psychosis experiences (Brett et al., 2007, 2014; Lovatt et al., 2010; Underwood et al., 2016). To construct the AANEX interview, Brett and colleagues (2007) identified appraisals of psychosis experiences in line with the cognitive models of psychosis (Garety et al., 2001, 2007; Morrison, 2001). They found that higher distress related to appraising psychosis experiences as uncontrollable (Brett

et al., 2007, 2014), indeed the role of control and people's lack of control is expanded extensively in this study. Moreover, they found that clinical groups were more likely to appraise their experiences to be caused by 'other people' (Brett et al., 2007). This was not directly corroborated by the findings of this study, however, participants did discuss how they perceived psychosis in relation to the self, and the role others play in their understanding. Similarly, externalising and personalising appraisals were also related to an increased need-for-care (Brett et al., 2014); both of which can be associated with people's accounts of psychosis in relation to the self. Lastly, Lovatt and colleagues (2010) found that people who sought help for their psychosis experiences had less psychological/normalising appraisals (Lovatt et al., 2010). This is expanded in the current study as all themes had an external component, where participants discussed their understanding of others' perceptions and reactions to their experiences.

There were clear parallels between the findings of this study and other qualitative work exploring lack of control (Holt & Tickle, 2016; Tully, Wells, & Morrison, 2017), losing one's sense of self (Charmaz, 1983; Mawson, Berry, Murray, & Hayward, 2011; Waite, Knight, & Lee, 2015), fear (Campbell & Morrison, 2007), and perceptions of reality (Tully, Wells & Morrison, 2017). This analysis, although anchored to these themes both supports and extends this previous work. The results further illustrate the importance of people's beliefs, perceptions and understandings of their experiences of psychosis and the maintenance of emotional experiences attached to them. This is important as negative appraisals are likely to lead to and contribute to the maintenance of distress related to psychosis experiences. Details of each theme will be discussed in relation to the wider literature, including quantitative literature on appraisals about psychosis experiences, in the following sections.

8.5.2 Control

Participants described feeling like they were no longer in control of their lives following the onset of psychosis. This lack of control was exacerbated by the unanticipated occurrence and unpredictable trajectory of psychosis. As a result, people described feeling both trapped and hopeless. Both defeat and entrapment are related to a perception of loss without escape or potential for improvement and therefore can lead to hopelessness (Gilbert & Allan, 1998; Karatzias et al., 2007). In the literature, hopelessness appears to be related to personal beliefs about illness, even when depression is controlled for (Rooke & Birchwood, 1998; White, McCleery, Gumley & Mulholland, 2007). If people feel unable to control their experiences then, they cannot influence their consequences. Thus, people's perceived lack of control in relation to their psychosis experiences are likely to have negative consequences on how people feel and can lead to negative outcomes.

The literature emphasizes the important role of control in relation to acceptance and distress. In a qualitative study with people experiencing psychosis, Tully and colleagues (2017) identified that there are different levels of control, ranging from not being in control at all to accepting that some things cannot be controlled. Further, they suggested that lacking control can contribute to the maintenance of distress related to psychosis experiences. In the current study, participants consistently reported that they had no control over their experiences, and suggested that psychosis was controlling their thoughts, emotions and behaviours. Participants often sought support from medical professionals, with the belief that medication can help make their experiences go away. This is somewhat paradoxical in that they seem to trade one loss of control for another. They trade a lack of control caused by psychosis itself for a diminished control that results from medication. This begs the question as to what is the object of control and whether all efforts should focus on making psychosis go away regardless of its cost to the person's sense of agency.

Participants of this study also described psychosis in relation to their self; the majority of participants in this study perceived psychosis to be internal, yet separate and different from their minds and their self. This separation might represent a way people manage or perpetuate their perceived lack of control. Indeed, if psychosis is

separate to the person's self and their mind then they cannot control it. If they cannot control their experiences, then they are not fully responsible for the consequences of their behaviours related to psychosis. This is also likely to be an important factor for their help seeking behaviours, where mental health professionals and medication are as likely to have a grasp on their experiences as they are. People's perceived lack of control is the overarching theme as it relates to all the other themes that emerged from this study.

Contrastingly, Boumans and colleagues (2016) proposed that their non-clinical sample found it was more important to develop a sense of agency than to eliminate psychotic-experiences themselves. In turn, if people hold normalising and spiritual beliefs about their experiences, they may not seek help from medical professionals (Brett et al., 2007; Lovatt et al., 2010). People with a need for care may be more likely to have developed a medicalised understanding of their experiences and seek medical support to deal with their experiences rather than the distress attached to them (Boumans et al., 2016; Heriot-Maitland et al., 2012). Which can contribute to the maintenance of distress associated with people's psychosis experiences as they do not think they can contribute to changing or controlling them. The literature relating to people's locus of control and sense of agency are further discussed in line with the study findings in the overall discussion (Chapter 9).

8.5.3 Change in identity

Psychosis prompted changes in how people defined themselves, their personal and social identity underwent unexpected and unwanted changes as a consequence of psychosis experiences. Participants articulated a sense of need to re-negotiate their personal and social identity. The extant self-felt alien to the self they always knew, which they had somehow lost to psychosis. Previous qualitative research has found that psychosis can lead to a 'catastrophic disruption' of peoples' lives (Barker, Lavender & Morant, 2001, p. 203). This was also the case in the current study, participants who were studying had to give up university and the ones working had to give up their jobs without knowing when they will resume them or whether they will be able to resume them at all. The experience of this disruption and loss was often an

emotional one, in which the unknown and uncertain nature of psychosis made it difficult for people to adjust to and move beyond their loss. The duration of this psychosis imposed self and new life course was undetermined, and they expressed awareness that it may entirely replace those revered pasts and possible futures. Therefore, in some cases, people went through a period of mourning their old self. The duration of this psychosis imposed self and new life course was undetermined, and they expressed awareness that it may entirely replace those revered pasts and possible futures.

How people perceive the self, others and the world is key to understanding the development and maintenance of psychosis experiences (Holt & Tickle, 2015). People's meaning making processes and their perception of their self are bound to interpersonal relationships (Mawson et al., 2011). External perceptions of one's mental illness can alter one's social identity and their social status. People's interaction with mental health services early on and the nature of the information they receive is central to their meaning making and emotional experience. Participants described all their experiences being scrutinized by family and mental health services. They explained feeling that they were dismissed by mental health services, and that their stories were unheard. Once someone is perceived to have lost 'reason', their credibility is undermined (Garfinkel, 1956). In the literature, internalising negative emotional experiences following pathologising inter-personal interactions was a key difference observed between clinical and non-clinical groups (Boumans et al., 2016; Heriot-Maitland et al., 2012). Heriot-Maitland and colleagues (2012) compared others' appraisals of psychosis experiences in clinical and non-clinical groups, and found that people who weren't diagnosed with psychosis were more likely to have interacted with people in contexts where their experiences weren't discussed as an illness. Their experiences were normalised as something spiritual or religious (Heriot-Maitland et al., 2012). Interestingly, in the current study, when the participants' networks and mental health services were described as supportive, they were more positive and accepting of the changes and the transitions psychosis prompted in their lives. The present study's findings and the literature, both emphasise the importance of others on people's understanding and acceptance of their psychosis experiences. Feeling unheard, dismissed and people's experiences pathologised are thus likely to increase the distress people feel in relation to their experiences of psychosis.

These consequences for identity extend beyond the present and permeate possible futures. Participants were often told that they will not be able to go back to work. Beyond its obvious immediate detrimental potential, this is problematic as research suggests that unemployment can cause further practical, social and emotional difficulties (Boydell, Stasiulis, Volpe & Gladstone, 2010; Romano, McCay, Goering, Boydell & Zipursky, 2010; Thornicroft, 2007). For some participants, representations of being unable to work relegated to feeling restricted and living a '*non-life*' (Patrick, 654). Therefore it is very important for people's both personal and social identity to regain a level of social involvement and activity.

Consequently, and in order to bypass and avoid these imposed restrictions on their social identity participants described engaging in secrecy, social withdrawal and isolation. Indeed, some participants described disclosing all mental health difficulties but chose not to disclose visions. While they didn't state it explicitly, this suggests that while mental health difficulties are stigmatised in themselves, hearing voices has added stigma attached to it (Angermeyer, Buyantugs, Kenzine & Matschinger, 2004). For instance, Phillip did not disclose that he had visions for years, this led to a number of wrong diagnoses. He preferred to keep this to himself even though he was already in contact with mental health services and was being treated for a number of difficulties. This may relate to an anticipation of the social costs of their experiences and the diagnostic label attached to them.

Cognitive models of psychosis, especially Morrison's (2001) model, consider 'cultural unacceptability' as a defining feature of psychosis experiences. People's experiences being outside of the normative expectations, and thus being treated as such is an important factor in their distress. Participants in this study questioned why certain beliefs (e.g. believing that God exists) do not require justification, whilst other beliefs lead to a mental health diagnosis. This puts people in a position of having to justify themselves and prove their beliefs to others. For some participants, the cultural acceptability of others' beliefs in comparison with their own produced tension, and led them to resist their diagnostic label. They challenged the idea that believing in talking to a god was any less pathological or any more normal than the beliefs they held. These subtle forms of resistance may have positive effects. This resistance can be understood as an effort aimed at reducing the distress that emerges from the labelling process and

its consequences. In relation to people's perceived lack of control, this is an important step towards and an attempt at regaining agency over ones' experiences, their beliefs and their lives.

It is suggested in the literature that acceptance is key to the resolution of difficulties with identity, and relatedly with rebuilding a sense of self is key to recovery (Bonney & Stickley, 2008; Noiseux et al., 2010; Romano et al., 2010). It can be argued that, for some people, having to re-negotiate a self and a life is likely to be distressing. Therefore, acceptance of such changes may reduce distress, facilitate engaging in self-compassion (Scheunemann et al., 2018; Waite et al., 2015) and lead to personal growth and recovery. The only participant that described this change of identity to be positive was no longer in contact with mental health services and had returned to work. He described a sense of personal growth following his experiences, stating that he is more appreciative of his life as a result of his experiences (also described in Mapplebeck, Joseph & Sabin-Farrell, 2015). It would be beneficial to focus on people's understanding of their experiences in relation to their personal and social identity in order to reduce the distress associated with psychosis experiences.

8.5.4 Living in fear

People reported fears related to the content of their symptoms, an increase of their symptoms which may lead to hospitalisation, and a fear of others' perceptions of their behaviours. Even though the themes that emerged from this research are intertwined, the only time participants clearly mentioned specific symptoms of psychosis was when they described the fear specific beliefs caused them. This fear is a product of how vivid people's experiences are and how strong their convictions about them can be (Morrison, 2001). In the current study, participants that described persecutory delusions feared for their life. Indeed, Morrison and Wells (2003) suggested that strong beliefs people hold about the danger of their thoughts can be source of distress when these beliefs are very strong. Moreover, in line with the findings of this study, it can be stated that people's fear was exacerbated by the unpredictable nature of psychosis and people's perceived lack of control over their experiences.

Participants also reported fear about the potentiality of their episodes increasing in frequency, intensity and duration. An increase in either of these could lead people to lose control completely and possibly lead to hospitalisation. All participants had been in hospital, and all (except one, Amal) had negative experiences while hospitalised. Therefore, beyond the experiential content of psychosis itself, people also felt fearful about the possibility of returning to hospital. Previous literature highlighted the way in which the process of hospital admission after the onset of psychosis can be shocking and therefore is likely to induce distress (Tan et al., 2014). Thus, people were determined to not let it happen, which is likely to contribute to the stress and worry they experience.

How others would perceive and interpret people's behaviours was also a source of fear for participants. The potential consequences their actions may have on other people when under the control of psychosis was something participants found distressing: the possibility of doing something they would regret; potentially hurting someone or engaging in behaviours they then would be unable to explain. One participant explained that psychosis could induce fear in others around the individual as well as the participants themselves. It was this concern, rather than a concern for their own health and well-being, that motivated some participants to comply with their medication regime. The wellbeing of others took primacy, and medication was felt to reduce the idea that 'anything could have happened' (Luke, 86). Therefore, the external dimension of distress in the context of this theme is a double edged sword. Participants experience distress not only as a result their worries about other's perceptions of them (and their beliefs and behaviours), but they also fear scaring the people around them or causing them harm. One strategy participants deployed to manage this worry was self-isolation. In some cases, participants also isolated themselves because they felt shameful about their psychosis.

8.5.5 Multiple realities

It is suggested that a key characteristic of psychosis is that people experience a break from reality. This implies that people lose touch with the accepted reality shared by other people. If people were unaware that their perceived reality is a result of their psychosis experience, then they are unlikely to be aware of their illness or

symptoms. As a result, it is suggested that people experiencing psychosis lack insight. Dimensions of insight typically include awareness of illness, awareness of symptoms and recognition of a need for treatment (David, 1990). Poor insight can be construed as a symptom in itself or as a manifestation of the disorder (Cuesta & Peralta, 1994). However, another conceptualisation is that poor insight can represent an individual's response to their diagnosis (Cooke, 2014). Research suggests that insight in psychosis is not independent from psychopathology, course or outcome (Jacob, 2017). A key component of and frequent example for poor insight relates to people's lack of awareness about the reality they experiences. However, participants in the current study made it clear that they were aware of the added reality brought on by psychosis, however they did not have the means to disregard it.

Strand and colleagues (2015) briefly mentioned that some of their participants showcased awareness of their 'symptoms being symptoms' (p. 113). This is also the case in the current study and it is not aligned with the general understanding that people experiencing psychosis lack insight into their symptoms. Rather than 'a break from reality', the participants in the current study described experiencing multiple realities. People explained that their delusional beliefs and hallucinations were an addition to the reality shared with others, rather than something separate. Despite an awareness of the incompatibility of their experiences with the reality they shared with others, some participants described being unable to set aside their beliefs. Rather than producing a 'break', participants experienced these beliefs in addition to or alongside the experiential reality shared with others. This seems to produce a perceived *ontological dissonance*, where participants simultaneously experience multiple realities which are at odds with one another. For some participants of this study, what is distressing is not the added reality in itself, but their awareness of this ontological dissonance; highlighting the incompatibility of these multiple realities. The participants were aware that the reality added by psychosis is not shared by others, but felt unable to control or dismiss it. This inability to dismiss their added reality and focus on the one they felt was accepted by others heightened their experience of distress.

A further emotional feature of the experience of multiple realities was how, as a result of their inability to control these experiences, people inadvertently acted upon them. Participants talked about their fear of acting upon their beliefs and worries about

how these actions could affect people around them. They had to navigate the reality brought on by psychosis to fit the normative reality shared by others in order to avoid unwanted consequences. On other occasions, these beliefs led them to come in contact with mental health services and at times be sectioned. When people came in contact with mental health services, they explained that their reality and beliefs were interpreted, and at times judged, by their mental health teams which added another layer of complexity to the process of sense making. This led to *ontological dissonance* between people's individual beliefs and the beliefs asserted by others. This itself was an added source of distress. This is closely related to people's perceived lack of control and the external component to their experiences and how they see others perceiving them.

This theme builds on the literature concerned with psychosis experiences by highlighting that to reduce the experience of psychosis to a 'break with reality' is an oversimplification. On the contrary, these participants were not dismissive of the reality shared by others, but instead described experiencing an additional one. They experienced ontological dissonance in the process of trying to determine and not act on the reality they perceived to be the wrong one. Therefore, far from being a break from reality, in the case of these participants at least, they attempted to carefully navigate multiple realities, hoping to stay within the boundaries of that which they are often characterised as 'breaking' from. It is therefore important to work with people's beliefs and understandings of their experiences and the appraisals they make of them instead of dismissing them (Peters, Williams, Cooke & Kuipers, 2012).

It is worth noting that the experiences participants refer to are in the past and their accounts retrospective, thus they may be reflecting on these experiences more clearly than when they are experiencing it. Furthermore, it is possible that because this sample was constituted by a majority of people who have experienced psychosis and been in contact with services for a long time, they may have developed a more insightful and reflexive understanding of their experiences.

8.5.6 Limitations of the study

This study had some limitations. Firstly, this analysis presents a small collection of perceptions of experiences of a humble sample of participants, and it needs to be remembered that the findings are specific to this group of people. However, there are similarities between the conclusions of this study and others which have investigated psychosis experiences (e.g. Tully et al., 2017), and therefore they should not be disregarded as anomalous. Second, the majority of the participants were recruited from community mental health settings and two of them were seeing a clinical psychologist at the time of interview. As a result, it is possible that they may be more aware of their experiences than people experiencing psychosis who are not in regular contact with community mental health services. Furthermore, nine out of the ten participants were using antipsychotic medication at the time of the interviews. It is thus likely that their feelings associated to some of their experiences may be blunted (Kirkpatrick, 2014).

8.5.7 Future research

This chapter will conclude with considerations for further research. Future research should include longitudinal studies to look at people's appraisals of their psychosis experiences at different times, as they may vary at different stages of people's experience. Similarly, recruiting people who are at risk for psychosis and with first episode psychosis experiences can be helpful in determining the variations in people's appraisals of their psychosis experiences. Moreover, it may be beneficial to investigate distress related to specific symptoms of psychosis (e.g. hallucinations and delusions). This would allow for the differentiation between experiences, identify those which are most troubling, thus allowing for more targeted approaches to recovery. However, the themes that emerged from this study were predominantly related to overall experiences of psychosis rather than specific symptoms, thus appraisals are likely to be holistic encompassing multiple symptoms. Next, future research could focus more explicitly on identifying ways in which people's sense of control could be augmented. This would assist people with adapting to changes in both personal and social identity, help manage fears, and promote the development of tools for managing multiple realities. In relation to the external factors identified in the

themes emerging from this study, a comparative study including multiple stakeholders investigating mental health professionals' and carers' perceptions of service users' appraisals of their psychosis experiences should be conducted in the future.

Chapter 9: Integration of the Quantitative and Qualitative Findings and Overall Discussion

This chapter sets out to integrate the quantitative and qualitative findings described in the previous chapters of the thesis, and discuss them in the context of wider psychosis literature. By integrating these findings, a conceptual model of distress related to psychosis experiences is proposed. This model is intended to generate hypotheses that may benefit future empirical investigation. Mixed methods research offers the potential to synergise the strength of quantitative and qualitative methods, thus providing greater advantages than discrete studies. The full potential of mixed methods can only be realised through the integration of the two studies. Before integrating the findings however, a summary of both studies' findings are presented.

9.1 Summary of Both Studies and their Findings

The following paragraphs will provide a very brief summary of both the quantitative and qualitative studies contained in this thesis. This is necessary foundational work to set up the primary purpose of this chapter – a synthetic account of these findings which draws core results together and provides a more complex and detailed picture of distress related to psychosis experiences.

Study 1 identified emotion regulation and metacognitive difficulties that contributed to the maintenance of distress related to psychosis experiences within an attachment framework. After initial associations were established, regression analyses were conducted to determine which emotion regulation subscales significantly predicted distress related to psychosis experiences (positive, negative and depressive symptoms) when the other subscales were controlled for. This was also done for the metacognition subscales. Significant predictors were then carried forward onto simple mediation models. Insecure attachment dimensions (anxious, avoidant) had an indirect effect on distress related to positive symptoms through *need for control*. These findings are novel in that even though *need for control* had previously been identified in relation to distress related to psychosis (Brett et al., 2014), it had not been identified as a mediator between insecure attachment dimensions and distress. Anxious attachment had an indirect effect on distress related to negative and depressive symptoms through *limited access to emotion regulation strategies*. Insecure

attachment dimensions had an indirect effect on distress related to depressive symptoms through *negative beliefs about the uncontrollability and danger of thoughts*. A multiple mediation model was conducted to test whether *negative beliefs about uncontrollability and danger of thoughts* or *limited access to emotion regulation strategies* acted as a mediator when the variance of the other was accounted for. It was found that anxious attachment had an indirect effect on distress related to depressive symptoms through *limited access to emotion regulation strategies* and *negative beliefs about uncontrollability and danger of thoughts* did not. Furthermore, *limited access to emotion regulation strategies* was related to distress associated with psychosis experiences for the first time. Another interesting finding is that different mechanisms mediated the relationship between attachment and distress related to positive and negative symptoms. These findings are corroborated with people's accounts of their experiences, suggesting that indeed symptoms are not necessarily central to experiences of psychosis and recovery stories (e.g. May, 2000; Pitt et al., 2007).

Study 2 identified a number of dimensions across people's experiential accounts that were important for understanding both the participants' psychosis experiences, and their appraisals of them. A recurrent theme emerging in participants' accounts of their appraisals was a perceived 'lack of control' of their lives. The sudden and unpredictable nature of psychosis exacerbated this feeling, making it more difficult for people to regain control over both their self and their life. This is related to another prominent theme that emerged; participants' perceptions of psychosis in relation to their self. Paradoxically, the majority of participants posited that psychosis was internal, and yet separate from the self. Although internal to their minds, psychosis was sufficiently separate from their sense of self which reinforced people's perceived lack of control. A third theme highlighted participants feeling that there were changes imposed on their personal and social identities. Psychosis upset the participants' everyday lives and future aspirations, on which much of their sense of identity had been build. As a result, people had to stop working and studying. Often they were told that they could not go back to work. Relatedly, participants also articulated that they felt 'dismissed'. Their stories and experiences which they wanted people to acknowledge tended to go unheard as mental health professionals often did not discuss their experiences with them. Fear also emerged as an important component of people's appraisals of their experiences.

Interestingly, few participants feared the content of their experiences. However, most participants feared that their psychosis might increase in frequency, duration and intensity, thus leading to acute symptoms. That alone did not cause fear. On the contrary, it was the consequences of this escalation that provoked a fearful response. If this occurred, a hospital admission was likely, which most participants feared as a result of previous negative experiences. Another dimension to this fear also related to consequences, but not for their own bodies or minds. The participants expressed fear about how they may interact and behave during an episode of psychosis. Their fear in relation to this emerged from the prospect that they may cause harm to others as a result. The final theme concerned the participants' experiencing multiple realities rather than an alternative. They explained that the 'psychosis reality' was added to the reality they shared with others who did not have psychosis, which resulted in an *ontological dissonance*. Equally, other people's perceptions and understandings of participants' realities were important to them, participants described feeling dismissed and unheard, in some cases others' perceptions of their experiences were a source of distress. Overall this analysis provides an original and detailed account of important dimensions of both people's appraisals of their experience of psychosis, and what matters to them in relation to their experience of distress.

Looking at the two studies in parallel can allow further conclusions to be drawn. One broad finding that comes out of this project is that rather than psychosis itself being a root of distress, distress is the result of a complex amalgam of people's experiences of psychosis and how they appraise them. It is important to acknowledge that distress is related to such a range of experiences, rather than specific symptoms. Indeed, the qualitative findings highlight important components of people's appraisals of their experiences, most of which relate to the consequences of having psychosis in their lives rather than the psychosis itself. These appraisals are likely maintained by people's need for control and limited access to emotion regulation strategies, all of which contribute to the maintenance of distress related to their experiences. Thus, this research argues that both emotion regulation and metacognition difficulties contribute to the maintenance of distress within an attachment framework. Therefore, it can be argued that specific emotion regulation and metacognition factors can be employed to help reduce the distress people feel in relation to their experiences as a whole, instead

of focusing on specific symptoms. People's beliefs about both their lack of and need for control are key findings of both the quantitative and qualitative studies. In order to make sure that the two studies in this project were integrated as rigorously as possible, the literature on mixed methods was studied, and the most appropriate, effective ways to integrate data were selected (Bazeley, 2018).

9.2 Integration of the Quantitative and Qualitative Studies

Despite a growing interest in the field of health research, the use of mixed methods is somewhat limited in psychology and psychosis research. Furthermore, when mixed methods are employed, the integration of various methods and their findings is sometimes not well developed or practised. Commonly, researchers may fail to provide justifications for, and transparency of their mixed methods design (O'Cathain, Murphy & Nicholl, 2007). O'Carthain and colleagues (2007) also highlight that qualitative components of mixed methods studies are often inadequately described, with inferences disproportionately founded on one method rather than the findings as a whole. In response to such criticisms, more rigorous approaches to integration are being developed and adopted in order to ensure that data from qualitative and quantitative methods are better integrated and draw on the strengths of both methods (Guetterman et al., 2015).

The findings of the quantitative and qualitative studies of this project were integrated to be interpreted together using 'triangulation' methods. This approach allows the researcher to assess concordance and discordance between the studies (Creswell & Plano Clark, 2007). The integration of findings ought to be achieved at both methodological level and interpretive level. At a methodological level, integration was developed by connecting the participants of both studies. That is to say, the qualitative sample was recruited from the same sample that participated in the quantitative study. It is crucial in mixed methods research that prior to integration both the quantitative and the qualitative components of the research are well developed (Creswell & Tashakkori, 2007). Each part needs to have their own data, analysis and inferences. To ensure that, the quantitative and qualitative research was conducted in parallel and data were analysed separately and written up independently. This allowed focus to remain on the aspects of the two studies that converged and diverged during

integration, as well as preventing the independently essential aspects of either study being neglected.

In this project, the primary integration effort took place at the interpretation phase for which joint displays was adopted. Joint displays provide a visual representation of the data and facilitates the process of analysis and interpretation in order to generate new inferences (Guetterman et al., 2015). It is an increasingly valued approach to integrating qualitative and quantitative findings in mixed methods research (Guetterman et al., 2015). The joint display matrix created for this project was inspired by the works of Classen and colleagues(2007), Fitzpatrick (2016) and von der Lippe (2010). This integration effort involves multiple steps including the exploration of ‘fit’, ‘confirmation’, ‘expansion’ and ‘discordance’.

The full data matrix (see Appendix 27) reports comparisons between and the integration of significant findings from the mediation models with the relevant qualitative findings of the IPA analysis. The author looked for convergences, divergences and discrepancies between findings from the different methods (O’Cathain et al., 2007). The ‘fit’ of data integration, defined by Fetters, Curry and Creswell (2013) as the coherence of the qualitative and quantitative findings, was determined in line with the outcomes. *Confirmation* occurs when the two data sources suggest similar conclusions and one confirms the result of the other. *Expansion* occurs when the findings of the qualitative and quantitative sources diverge, and as a result provides greater insight by highlighting differing or complementary aspects of a central phenomenon of interest. In contrast then, *Discordance* is a product of inconsistent, incongruent, contradictory, or conflicting findings across the two studies (Fetters et al., 2013).

The data-matrix is constituted of findings from both studies (see Appendix 27). The mediation models uncovered that *need for control* and *limited access to emotion regulation strategies* mediated the relationship between insecure attachment dimensions and distress related to psychosis experiences. The quantitative findings investigated specific vulnerability factors, therefore, the quantitative findings were collocated with qualitative findings. *Need for control* and *limited access to emotion regulation strategies* were the key components to be integrated with qualitative

findings. In addition, 'interpersonal relationships' was also included in the joint display table. This was done for two reasons; first, attachment theory provides a framework for understanding psychosis in the literature (Berry et al., 2007b), and the quantitative study where the mediation models were developed to investigate the relationship between insecure attachment and distress related to psychosis. The second reason is that interpersonal relationships played a key role in people's experiential accounts, evident from the discussion of themes that emerged from the qualitative analysis. People talked about their appraisals of their psychosis experiences not only by focusing on internal processes but also by talking about external influences and interpretations of their experiences – the wider interpersonal context in which their experience took place. Overall, 'need for control', 'limited access to emotion regulation strategies' and 'interpersonal relationship' were the key findings integrated in the joint display matrix.

The following paragraphs will explore the elements of concordance and discordance emerging from this exercise. The joint display of the key findings of the quantitative and the qualitative studies revealed that 'limited access to emotion regulation strategies' aligns with 'lacking control'. A strong sense of not being in control ran through the ways people tended to discuss their emotional difficulties. This perceived lack of control brought a sense of 'pessimism', evident from their accounts. Therefore, in addition to integrating quantitative and qualitative findings for interpretation, the following discussion also integrates the cognitive and emotional experiences people had in relation to psychosis through their perceived lack of control and consequences on people's experiences. By merging the emotional and cognitive vulnerability factors, the divide often created in the literature that had also formed in the quantitative study was eliminated.

In sum, the following discussion will focus on two components. First, lack of control will be discussed and related to both quantitative and qualitative literature. Next, the role and importance of interpersonal relationships for people's appraisals of their psychosis experiences and overall acceptance of their experiences will be discussed. The findings of this thesis support and expand on the fundamental cognitive approaches to psychosis (Bentall et al., 2001; Garety et al., 2001, 2007; Morrison,

2001) that deem appraisals, and social context as the key determinant to distress related to psychosis experiences.

9.2.1 Control

In the context of this discussion, control has a number of important elements that need to be addressed. In doing so, the findings of both studies will also be situated in the wider context of the literature to make connections, and draw support from or critical attention to its various components. First, people's perceived loss of control is situated in the qualitative study, and its relation to people's overall experiences is illustrated. Second, people's perceived lack of control is associated with where people perceive the 'locus of control' (Rotter, 1960) to be, this will be described and related to previous literature. Last, when the qualitative findings were investigated in relation to the quantitative subscale 'limited access to emotion regulation strategies', it was uncovered that people's inability to access emotion regulation strategies related to a perceived lack of control.

Previous theoretical research related high levels of distress associated with psychosis experiences to worries that psychosis experiences are uncontrollable (Birchwood et al., 1993; Freeman & Garety, 1999; Freeman et al., 2002; Hill et al., 2012). Moreover, Peters and colleagues (2012) identified control appraisals in relation to symptom-related distress. The findings of this project provide further empirical evidence for the importance of people's perceived lack of control. Metacognitive research found that people experiencing psychosis held negative beliefs about the uncontrollability and danger of thoughts at significantly higher levels than non-psychotic groups (Morrison & Wells, 2003). Arguably, if people find their experiences uncontrollable, they will need and seek control. Furthermore, feeling a lack of control is more likely to be distressing in itself, particularly if individuals are predisposed to expectations of control and consistency (Brett et al., 2014). Other metacognitive research also concluded that metacognitive difficulties were associated with distress related to psychosis and need-for-care rather than symptoms of psychosis (Hill et al., 2012, Sellers et al., 2017). The present findings corroborate and extend previous research by explicitly linking people's need for control to distress related to positive

symptoms within an attachment framework in the quantitative study. The qualitative finding also expand on previous research, importantly, the findings of the qualitative study suggest that people's perceived lack of control also influences other appraisals people make of their psychosis experiences.

The findings of the qualitative study illustrate that 'loss of control' alone doesn't seem to maintain distress associated with psychosis experiences. The appraisals people make of their experiences and their implications as a whole seem to contribute to the maintenance of distress. People were afraid of losing control over their behaviours and doing something they would later regret. They felt like they could not control their perceptions and beliefs, and as a result had to manage and navigate multiple realities characterised by different beliefs. Lack of control also led to changes in their personal and social identities: who they were, were going to be, and how people perceived them. Navigating these dimensions of identity were difficult and in some cases distressing. The lack of control people feel about their experiences feeds into all other aspects of their experiences, and influences the appraisals they make of different psychosis experiences. This relates to people's perception of who or what is in control.

9.2.1.1 Locus of control

Previous studies investigating distress related to psychosis experiences found that people who were seeking help for their experiences were more likely to appraise their experiences to be external and caused by other people (Brett et al., 2007; Lovatt et al., 2010). This suggests that people were more likely to attribute their locus of control to be external when compared to non-psychotic populations (Harrow et al., 2009). Locus is defined as an individual's expectation as to where control over subsequent events resides (Rotter, 1960, 1966 in Hutcheson et al., 2014). Internal locus of control is the belief that events that happen in a person's life result from their own efforts, skills and internal disposition. An external locus of control, in the other hand, is when the individual expects reinforcement to be the result of change, being under the control of powerful others or just to be unexpected (Rotter, 1966). People experiencing psychosis have an external locus of control when compared to non-psychotic populations (Haley, Drake, Bentall & Lewis, 2003). Locus of control is not

a stable trait in individuals with schizophrenia, it is affected by recent experiences and symptoms (Bentall & Kaney, 2005; Harrow, Hansford & Astrachan-Fletcher, 2009). Negative events seem to increase the externality of locus of control in individuals experiencing schizophrenia (Melo, Taylor & Bentall, 2006). External locus of control has been related to lower self-concept, a higher degree of negative symptoms and depression (Hoffmann, Kupper & Kunz, 2000). The locus of control held by people can play an important role in the maintenance of distress associated with psychosis and subsequent outcome and recovery. Qualitative research allows for a more nuanced understanding of people's experiences of loss of control.

Participants of the qualitative study in this project, attributed control to psychosis, and they talked about where they situated psychosis in relation to themselves. For example, one participant explained that psychosis was 'in your head' but had 'its own logical reasoning' (Patrick, 29) highlighting that it is something contained within, yet cognitively quite separate. This effort to differentiate psychosis from the core self may relate to people's attempt to retain, or regain a level of agency over their life (Barker et al., 2001). By making this difference, people are alluding to the coexistence of both an internal and an external locus of control. By distinguishing their sense of self from psychosis, people perceive the part of their mind that is free from psychosis to be under their control and relinquish responsibility for harmful actions and behaviours that they may undertake 'under the influence' of psychosis. Phillip compared psychosis to being 'under the influence' of 'illegal drugs' but when unusual experiences occur as a consequence of taking drugs, he explains that there is a sense of control over these experiences as their source is known; this is not the case with psychosis. This comparison illustrates the link between sense of control and distress related to psychosis.

Internal locus of control has been associated with less positive symptoms, better self-concept and increased use of active change coping (Hoffmann et al., 2000), active problem solving (Bak et al., 2003), and greater self-esteem (Harrow & Jobe, 2007). If people cannot re-establish agency over psychosis, it is likely that distress they associate with their experiences will be maintained and individual recovery hindered. Therefore, focusing on re-gaining an internal locus of control can be more beneficial to increasing people's wellbeing than focusing on symptoms (Boumans et al., 2016).

Further research is required to determine the role locus of control plays in distress associated with psychosis.

9.2.1.2 Limited access to emotion regulation strategies

The joint display matrix highlighted similarities between *need for control* and limited access to emotion regulation strategies. *Limited access to emotion regulation strategies* is a measure of one's inability to make flexible use of situationally appropriate emotion regulation strategies that aim to modulate emotional responses. When integrating it with the qualitative study findings, it became clear that all the relevant extracts belonged to the qualitative analysis theme: lacking control. If the person feels like they are not in control of their thoughts and emotions, they are unlikely to use situationally appropriate emotion regulation strategies. Relatedly, if a person repeatedly employs inappropriate emotion regulation strategies and fails to achieve their set goal for regulation, they are also likely to feel that they are not in control of their thoughts and feelings. Therefore, if the person attempts to self-regulate their emotions and thoughts to reduce distress and lack appropriate strategies to do so, distress is likely to be maintained or exacerbated. Overall, this suggests that emotional and cognitive difficulties work in tandem in the production, maintenance and exacerbation of distress. This is an important finding which links emotional and cognitive factors to the maintenance of distress related to psychosis experiences. Moreover, this finding further evidences the value of investigating metacognition and emotion regulation within the same mediation model, when appropriate, thus accounting for the variance between them (Hayes, 2013). The integration of the two studies has provided empirical evidence for the associations between cognition and emotions, as well as the role they play in the maintenance of distress related to psychosis.

While this section has focused on control, its role in distress is not separate from the other key finding of interest here: Interpersonal relationships. People's perceived lack of control in relation to their experiences of psychosis is likely to be influenced by their interpersonal relationships and the social context in which they find themselves (e.g. the hospital) (see Perry, Taylor & Shaw, 2007). How other people respond to participants' psychosis experiences is essential in determining how in

control people will feel about their experiences. The second key finding that was integrated using quantitative and qualitative findings was the role of interpersonal relationships.

9.2.2 Interpersonal relationships

The findings of this study suggest that attachment dimensions also contribute to the maintenance of distress related to psychosis experiences. Attachment is a developmental theory of interpersonal and psychological functioning which draws on affectionate bonds created in the context of close relationships (Bowlby, 1982). Conceptualising psychosis within an attachment framework highlights the functional nature of the individual's methods of dealing with distress. Insecure attachment strategies develop out of a maladaptive care environment, in order to help infants survive them by reducing threat (Berry & Bucci, 2016). These strategies are maintained throughout life where they are used to cope with threatening situations or when threat is misperceived. There are then a number of dimensions in which interpersonal contributions play into people's beliefs and feelings about psychosis. How people are reacted to, treated by medical staff but also friends and family are hugely influential on how participants come to make sense of their experiences. Previous experiences they have had in hospital and beyond its walls, as well as their imaginaries about how people will react to them in the future are factors that must be considered in understanding distress related to psychosis experiences. 'Interpersonal relationship' as a construct is the result of the two studies' integration, as both studies found important associations between difficulties relating to the self and others, and unhelpful interpersonal relationships and increased distress related to psychosis experiences. In the following paragraphs there will be a discussion of the importance of interpersonal relationships to how people make meaning and deal with psychosis experiences. Negative and pathologizing experiences were related to increased distress, while contrastingly supportive relationships related to lower distress.

Many individuals with distressing psychosis will have experienced predominantly negative schematic conceptions of their self in their intra-personal and interpersonal experiences (Chadwick 2006). These interactions may pre-date the onset of psychosis experiences and people coming in contact with mental health services.

The relationships people build following the onset of psychosis experiences are of great importance to the process of meaning-making and coming to understand their new circumstance (Brett et al., 2014). It is suggested in cognitive models of psychosis that people's personal and cultural metacognitive beliefs are likely to influence their appraisals of their experiences (Morrison, 2001). The reactions and interpretations of others to individual's psychosis are likely to influence their own appraisals of their psychosis experiences. The findings of the qualitative study provide further support and nuance to this argument. People's perceptions of others' understandings and reactions to their experiences of psychosis proved hugely important to how they felt about and made sense of psychosis overall. In fact, all emerging themes had what was referred to as this 'external' component. In each theme, participants described how others' perceptions and understanding influenced and shaped their appraisals of their experiences. For examples, social networks, mental health professionals and perceived societal expectations played an important role in the process of changing individual's social identity. Participants felt fearful about the potential consequences their actions might have for others' beliefs about them, and as a result had to manage and cope with these external (and possibly negative) perceptions of their reality. These images and beliefs of interactional experiences heavily shape individuals' appraisals of and feelings about their psychosis experiences. One consequence of negative interactions (such as feeling 'written off' (Patrick, 537)) with those who are believed to be a part of their support network is the exacerbation of feelings of distress. Social networks and mental health teams, therefore, play an essential role in people's ability to make meaning and deal with their psychosis experiences (Berry & Drake, 2010; Schuengel & van Ijzendoorn, 2001).

On the other hand, studies have found that appraisals relating to psychological explanations (Brett et al., 2014; Peters et al., 2012) or normalising appraisals of people's psychosis experiences was statistically related to less distress and less negative affect. This was corroborated by qualitative research, both Boumans (et al., 2016) and Heriot-Maitland (et al., 2012) identified that a key difference between help-seeking and non-help seeking participants was that non-help seeking participants had normalising experiences, and received validation and acceptance from their peers, friends, or family. This provides strong support to the argument that others' reactions and responses to individuals' psychosis experiences are important to how they come

to feel about and appraise them. Some participants focused on the positive influence of supportive environments, 'it's [hospital] a safety zone' (Amal, 58) on their wellbeing. Other participants cherished that support and found it vital to their meaning making, Josh said 'a problem shared is a problem halved' (277-278) referring to the importance of sharing his experiences with his mental health team. Social support and acceptance of psychosis experiences, can contribute to lower distress related to psychosis experiences (Brett et al., 2014). It can therefore be beneficial, in order to lower distress related to psychosis experiences to create and maintain more supportive and understanding environments.

These findings align with the findings of a recently published systematic review aimed at understanding the views and experiences of key stakeholders (service users, clinicians, carers, and family) on diagnostic practice (Perkins et al., 2018). From their comprehensive synthesis of qualitative data, Perkins and colleagues developed a model considering factors influencing service-users' experiences of mental health diagnosis (Perkins et al., 2018). They found that both external and internal factors influenced service-users experiences throughout the diagnostic process. External factors include the impact of culture, stigma and discrimination on service users, as well as the support available from others. This corroborates the findings of the qualitative study and further emphasises the importance of others perceptions in people's meaning-making processes. Focusing on both internal and external factors encourages a well-rounded and more complete understanding of people's appraisals of psychosis. In their model, this is accompanied by service provision factors (e.g. quality of diagnostic assessment, timing, and the functional value of diagnosis). Carers and mental health professionals were not interviewed for the current project, therefore all aspects of external factors that are identified come from service users' perceptions of their experiences and relationships. However increasing the focus of mental health services and care provision on reducing distress related to psychosis experience by focusing on increasing perceived control and supportive interpersonal relationships can be beneficial to people's wellbeing. The integrated findings of this thesis have important implications for clinical practice which are considered below.

9.3 Implications for Clinical Practice

In addition to the theoretical implications that have been presented throughout the discussions of the quantitative study (see 6.9) for the refinement of the role of attachment theory as a framework for understanding psychosis experiences, and its application to distress related to psychosis experiences, this project has a number of clinical implications. Studies presented in this thesis have accessed meanings that are not unique to these samples (e.g. Brett et al., 2014; Heriot-Maitland et al., 2012), however this is the first study that focuses on and combines these components to better understand distress related to psychosis experiences. A number of tentative recommendations for clinical practice can be drawn out from the findings.

This project highlighted the role of appraisals people make of their psychosis experiences and associated them with distress related to psychosis experiences. Moreover, the qualitative investigation of people's appraisals highlighted their idiographic nature. Appraisals have an important role in cognitive formulations of psychosis. Cognitive models of psychosis propose that emotional reactions and behavioural responses are dependent on appraisals of people's psychosis experiences (Garety et al., 2001, 2007; Morrison, 2001). Metacognitive and emotion regulation difficulties are likely to contribute to the lack of control people experience. In turn, this perceived lack of control likely contributes to the maintenance of distress related to psychosis experiences. Therefore, there is a cyclical link between negative appraisals and emotional and cognitive difficulties that contribute to the maintenance of distress related to psychosis experiences, figure 14 provides a visual representation of the associations suggested by this project.

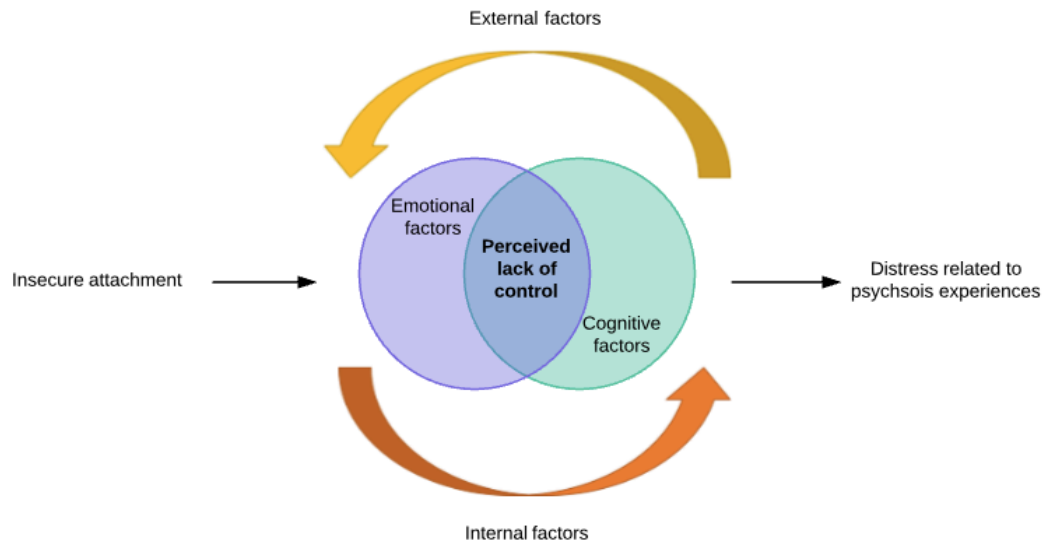


Figure 15. *Visual representation of integrated study findings*

The experience of distress in psychosis is emphasised in the literature review as being an important differentiating factor between clinical and non-clinical samples (Brett et al., 2009; Heriot-Maitland et al., 2012; Peters et al., 1999). Additionally, the experience of distress also plays an important role in help-seeking (Brett et al., 2009). Therefore, by identifying the psychological and contextual vulnerability factors contributing to the maintenance of distress related to psychosis experiences, this project has implications for the reduction of distress in clinical populations. Moreover, this research can be expanded to non-clinical and at-risk samples in order to determine whether these factors can be identified and used to prevent the development of full-blown psychosis experiences. In line with the findings of this thesis, distress related to psychosis experiences is likely to be maintained by people's perceived lack of control and unhelpful interpersonal relationships. Thus focusing on these factors in care settings can help reduce distress and increase wellbeing.

In line with these findings, three approaches are discussed below. First, attachment informed care approaches are reviewed as they aim to create a secure base for people as well as promoting helpful interpersonal relationships. Next, peer support is discussed as it is likely to help reduce perceived lack of control and provide supportive external input. Lastly, metacognitive therapy is presented as it focuses on facilitating the use of new ways to respond to psychosis experiences.

9.3.1 Attachment informed care

Recently, clinical research has focused on the role attachment informed practices can have to provide more effective care to people experiencing psychosis. The attachment system can be understood as a help-seeking system (Bowlby, 1982). People's attachment dimensions are closely associated with how they seek help following the onset of psychosis (Gumley et al., 2014), the therapeutic alliance they form (Macbeth et al., 2011) their engagement with services (Macbeth et al., 2011) and outcomes they achieve (Mikulincer, Shaver & Berant, 2013). Macbeth and colleagues (2011) found that avoidant attachment was associated with worse engagement with services and worse treatment adherence than secure attachment. The relationships between people experiencing psychosis, staff and services are particularly important as they provide the context in which recovery is promoted (Gumley et al., 2014). The associations found between insecure attachment dimensions and distress related to psychosis experiences suggests that the maintenance of distress may be partially explained by people's attachment dimensions on the one hand, and their engagement with services on the other. Therefore, attachment informed care can help promote engagement, encourage better treatment adherence, promote better outcomes and help reduce distress related to psychosis experiences. To illustrate how attachment informed care is relevant and can be beneficial when tackling distress related to psychosis experiences, a review conducted by Berry and Danquah (2016) describing the key goals and strategies of attachment-informed psychotherapy is summarised next. Moreover, it is suggested that attachment-informed care does not need to be confined to dyadic relationships.

Attachment informed therapy can be useful in changing people's perception of the self, others and the world by contributing to the development of more secure attachment working models. The therapeutic relationship should, therefore, aim to provide a secure base for the person. This secure relationship with the therapist can then be used as a base on which attachment related therapeutic tasks can be carried out (Bateman & Fonagy, 2004). The aim is to help people understand how their past experiences influence their current behaviour, experiences and relationship (Berry & Danquah, 2016). Interpretations attuned to people's affective state were hypothesised to strengthen their self-reflection and metacognitive functioning leading to more

coherent narratives of attachment-related experiences (Bateman & Fonagy, 2004; Cobb & Davila, 2009; Heard, Lake & McCluskey, 2009; Holmes, 1993; Wallin, 2007). Therapists should create supportive conditions for the service user to determine a course of action for themselves (Bowlby, 1977b, 1988; Heard & Lake, 1997; Sable, 1992, 2000, 2007 in Berry & Danquah, 2016). Co-creation, leading to a tailored intervention that fits individuals' needs, can help enhance the perceived control people have over their lives and experience, which in turn may lead to reductions in distress associated with psychosis experiences.

Berry and Danquah (2016) also suggested that it is important to adapt the tasks and styles of therapy in a way that accounts for differences between attachment anxiety and avoidance. For example, consistency in interpersonal relationships and reliability of carers are key for people with anxious attachment dimensions, as these therapeutic features help self-expression of the strengths and needs they may have been denying themselves due to fear of abandonment. Conversely, for avoidant attachment dimensions, which are associated with an apparent lack of care in attachment relationships, it is important to account for the limited expression of affect (Berry & Danquah, 2016). Therapists need to be cautious not to reinforce people's self-sufficiency and lack of emotional expression. For instance, using telephone sessions (Biringen, 1994), and focusing on concrete problems (Connors, 1997), can help overcome difficulties engaging with services that people with avoidant attachment experience (Dozier, 1990). Following this, tailored therapies that account for the person's insecure attachment dimensions are likely to also be effective in managing distress related to psychosis experiences as distress is likely to be presented differently depending on the person's attachment dimensions (Berry et al., 2012).

It is important to note that Berry and Danquah's (2016) review is a theoretical overview and not a synthesis of outcome data. Further empirical work is necessary to establish the effect of attachment-informed therapies in reducing distress associated with psychosis experiences. Specifically, longitudinal studies may overcome the challenge posed by changing attachment styles over time. Investigating the effect of changing from insecure to more secure attachment working models on distress related to psychosis experiences may prove useful in informing more effective tailored therapies.

Attachment-informed interventions do not need to be confined to the dyadic relationship between a therapist and the person in care. Often, in community mental health teams, people have a team of mental health professionals that support them and can adhere to attachment informed care. Services that inspire hope and optimism, and allow the service user to retain feelings of control over their experiences and treatment seem likely to result in better outcomes and arguably a reduction in distress (Dixon, Holoshitz & Nossel, 2016). As evidenced in the qualitative findings of this thesis, it is critical that services account for the influence of external and internal factors on psychosis experiences and promote wider ‘relational security’ (Department of Health, 2011), while also emphasizing safe and secure staff-patient relationships. Peer support interventions are another way to facilitate supportive interpersonal relationships.

9.3.2 Peer support interventions

While peer support is not a new concept in chronic health conditions (Davidson, Chinman, Sells & Rowe, 2006), initiatives have only begun to flourish in recent years. Internationally, peer support interventions have been widely advocated by service user researchers (Clay et al., 2005; Faulkner & Basset, 2012) and professional organisations (e.g. Royal College of Psychiatrists, 2009; NICE, 2014). Currently, there is not a single accepted definition of peer support. The National Institute for Health and Care Excellence (NICE, 2014) adopted Solomon’s (2004) definition that highlights the importance of non-coercive and informal approaches to offering social, emotional and instrumental support. It is mutually offered or provided by people with mental health difficulties to others with similar conditions in order to bring about a desired personal or social change (Solomon, 2004). This definition touches on some of the integrated findings of this thesis, as it directly addresses the importance of external factors and the negative consequences unhelpful interpersonal relationships that emerged from the qualitative analysis can have on people’s appraisals of their psychosis experiences and in turn increase distress. Indeed, NICE (2014) emphasise the importance of offering informal peer support as people with psychosis or schizophrenia often find engagement with mental health services difficult and avoid contact. Peers with similar lived experiences may help overcome these barriers, and help mitigate individuals’ concerns about how they are perceived by others around them. Through role modelling, peer support workers can also promote

self-efficacy (e.g. demonstrating recovery; Salzer & Shear, 2002) and help reduce internalised stigma (Pyle, Pilling, Machin, Allende-Cullen & Morrison, 2018). In turn, peer support workers gain therapeutic value from helping others. Relatedly, peer support workers can also challenge the attitudes of clinical staff and contribute to a cultural change within mental health services (Repper & Watson, 2012; NICE, 2014).

Peer support has been implemented in a variety of ways, which includes: peer support groups (face-to-face or online), peer-delivered services, peer partnerships, peer researchers and peer employees (Davidson et al., 1999; Solomon, 2004). The range of functions fulfilled by peer support workers includes offering understanding, acceptance and empathy, role-modelling, providing practical information and supporting service users to access community facilities (Davidson et al., 2006; Davidson, Bellamy, Guy & Miller, 2012). All of these functions are likely to help reduce distress associated with psychosis experiences, mainly by empowering people through helping them achieve a better grasp of their experiences, help increase their self-esteem (Repper & Carter, 2011). The maintenance of helpful and supportive interpersonal relationships are then likely to provide a sense of connection (Embuldeniya et al., 2013) and reduce shame and isolation (Pauldel & Baral, 2015). This is also likely to help increase people's perceived control over their experiences and help reduce distress related to psychosis experiences. Moreover, the development and maintenance of meaningful relationships is very important for a successful recovery journey and increased wellbeing (e.g. McCabe, 2004).

Reviews of peer support have found moderate evidence that it does indeed lead to higher levels of empowerment, hopefulness for recovery, engagement with care and patient activation. Reductions in the use of inpatient services were also found, as well as improved relationships with care providers (Chinman et al., 2014; Davidson et al., 2012). Moreover, it should be noted that other studies found significant differences in outcomes between people who were and were not offered peer support (Lloyd-Evans et al., 2014; Pitt et al., 2013). Most recently, in a randomised controlled trial of peer support mentorship intervention, O'Connell and colleagues (2018) found that participants assigned to the peer mentor condition reported significantly greater reductions in substance use and psychiatric symptoms and greater improvement in functioning when compared to people assigned to standard care. They also observed

important reductions in hospitalisation rates and the duration of hospital stays. Despite the study's small size, the results are promising and warrant further exploration. Further research is needed to establish the benefits of peer support workers, specifically investigating how they influence people's perceived lack of control, insecure attachment dimensions and distress related to psychosis experiences.

9.3.3 Metacognitive therapy

Metacognitive therapy (MCT; Wells, 2009; Wells & Matthews, 1994) assumes that distress is associated with the activation of unhelpful forms of perseverative processing which includes: 'rumination', 'focusing on threat' and 'thought control'. These processes relate to people's metacognitive beliefs about the utility, controllability and danger of these processes (Morrison et al., 2014). MCT emphasises the development of a detached awareness of people's thoughts and the development of new and more helpful beliefs. This is done in order to decrease people's use of unhelpful strategies (e.g. rumination and worry) and unhelpful attentional strategies (Wells, 2009), in turn facilitating the development of more productive strategies (Wells, 2009). Overall, metacognitive therapy may improve people's perceived control and contribute to the reduction of distress related to psychosis experiences.

Early evidence of MCT for OCD (Fisher & Wells., 2008), PTSD (Wells et al., 2008), GAD (Wells & King, 2006) and psychosis (Hutton, Morrison & Taylor, 2012; Hutton, Morrison, Wardle & Wells, 2014; Morrison et al., 2014) suggests it shows promise as a treatment. Hutton and colleagues (2014) investigated whether a short number of MCT sessions would provide clinically significant, and sustained improvements in delusions, hallucinations, anxiety, depression and subjective recovery in 'treatment-resistant' long-standing psychosis. Two of their participants achieved clinically significant improvements across the components listed above. For one participant, this improvement was sustained over three months. While this study demonstrates the feasibility of using MCT, the very small number of participants makes it difficult to draw concrete conclusions. In another study, Morrison and colleagues (2014) conducted a feasibility study, where ten participants received 12 MCT sessions in an open trial. Exploratory analyses revealed that metacognitive beliefs changed significantly during treatment and follow-up periods. However, the small sample size and absence of control group warrants that the findings be taken

tentatively. Nevertheless, these preliminary findings are promising (Hutton et al., 2014), and further research is needed to determine the efficacy and safety of MCT for dealing with distress related to psychosis experiences.

9.4 Reflexivity

“Personal reflexivity involves reflecting upon the ways in which our own values, experiences, interests, beliefs, political commitments, wider aims in life and social identities have shaped the research” (Willig, 2001, p.10). It relates to examining the effect of a researcher in the research process (Elliott, Fischer & Rennie, 1999; Yardley, 2000). Whilst being deeply committed to honouring the data, no researcher is without bias, irrespective of the specific methods used. It is therefore important that the researcher is transparent about their own stance and perspective (Smith & Osborne, 2008). This is why I attempted to acknowledge my values, beliefs and expectations from the outset of the project, and revisited them throughout my PhD journey (see the researcher’s reflexivity piece in Appendix 26). I also collated a reflective journal during recruitment and data collection that includes information on the keyworkers contributing to recruitment, thoughts on the referral meetings I attended and most importantly reflections on the emotional impact of each data collection meeting and interview I conducted. I also kept detailed analysis notebooks for both study 1 and study 2. I endeavoured to conduct a rigorous project in line with guidelines available for the respective methods I employed. Overall, the information provided in this thesis is my interpretation of the data I collected.

9.5 Strengths

A strength of this research stems from its mixed methods design. First, the use of mixed methods allowed for a broader range of research questions to be addressed than would have been possible in a solely quantitative or qualitative study. Second, the use of qualitative methods gave a voice to the subjective experiences of service users, ensuring the research didn’t become detached from people’s lived experience of psychosis. Third, the integration of the quantitative and qualitative studies prompted the development of a comprehensive framework for understanding distress related to psychosis experiences. This framework highlights the importance of perceived control, as an internal factor and interpersonal relationship as an external factor

contributing to the maintenance of distress related to psychosis experiences. Both of these concepts be the subject of future empirical investigations.

Psychosis research predominantly focuses on single symptoms (e.g. Bentall, 2003). This is essential to the understanding of specific components of people's psychosis experiences, and distress associated with specific symptoms (e.g. Hill et al., 2012). However, the majority of people's psychosis experiences include multiple symptoms and a variety of associated difficulties. Thus, in line with the wide array of appraisals of psychosis experiences uncovered in the qualitative study of this project, it is clear that distress related to psychosis cannot be fully isolated and attributed to specific symptoms. Instead, people's experiences are intertwined with multiple appraisals and external factors that further shape and change how they make sense of their experiences. There is, therefore, strength in considering positive, negative, depressive symptoms and experiential components of people's psychosis experience as a whole.

9.6 Limitations

The limitations of each study have been discussed at the end of their respective chapters. This section concerns itself with the limitations of the project as a whole.

It is crucial to any mixed methodology that that data is meaningfully converged in a clear and transparent way. In the case of this study, the core method by which the integration was carried out, the descriptions and meta-matrix table - which can be found in the appendices (see Appendix 27) - was constructed to facilitate integration and provide a transparent illustration for the reader as to how this process was carried out. However, it is worth noting a number of subjective decisions necessarily made by the researcher which may be construed as limitations. Researcher-designed individual themes were selected from the study findings in order to provide a combined understanding of both studies. This may have limited the scope of the findings by oversimplifying complex concepts (Fitzpatrick, 2016). The use of an external audit might be helpful in establishing the reliability of the integration and trustworthiness of the themes chosen. However, the researcher did not have the resources to do that.

Second, the datasets were heterogeneous, as not only data was collected using different methods, the object of investigation in the two studies were complementary yet different. The quantitative data focused on specific psychological vulnerability factors contributing to the maintenance of distress associated with psychosis experiences, the qualitative interviews investigated people's appraisals of their psychosis experiences which influences the distress people feel in relation to their experiences. Measures were therefore taken from the design stage of the study to maintain the individual strengths of each studies in order to maintain their full potential before they were integrated. This was mainly achieved through both studies being analysed and discussed individually before they were integrated. Nevertheless, the potentiality of researcher bias needs to be recognised, as it might have influenced the integration of the quantitative and qualitative studies.

Another limitation from which both studies are likely to suffer is that people's beliefs about and understandings of their experiences fluctuate over time, depending on the environment and internal states (Peters et al., 2012). People's insight and distress related to their psychosis experiences can also change over time. Longitudinal research represents one way of accounting for such variations in understanding and distress related to psychosis experiences. Such an approach might concentrate on key turning points in people's experience: such as first episode of psychosis, following the diagnosis, prior to and following hospitalisation.

In line with the inclusion criteria of the research, the majority of people who took part in this research were in care at the time of data collection and therefore had sought and were receiving support. This may have led people to be more reflexive and accepting of their experiences than a sample that was not receiving support, this may have influenced people's reported levels of distress or types of appraisals. The fact that people were actively seeking support may also indicate that they were at a particular stage of their illness, different to people having similar experiences but have yet to come in contact with mental health services. Individuals that had managed to self-regulate their distress are unlikely to be attending community mental health teams and charities where recruitment took place, and as a result are not represented in this sample. Therefore, the findings do not provide information on the attachment dimensions, emotion regulation and metacognition skills of people who are not

distressed by their experiences enough to come in contact, and remain in contact with mental health services. Additionally, many participants were using medication at the time of data collection. Therefore, the perceptions they held about their emotion regulation and metacognitive abilities and their appraisals of psychosis may be moderated by the effects of medication. While participants were recruited across the psychosis spectrum of disorders, acute services were excluded from the research. All participants were therefore well enough to live in the community (with the support of their community mental health teams), thus people who are highly distressed about their experiences may have been omitted. Relatedly, as mental health staff served as gatekeepers for the recruitment an unconscious selection bias may have affected the sample. It is possible that clinicians approached people they trust were eligible, willing or well enough to participate.

9.7 Future Research

Future research for individual studies has been discussed at the end of both the quantitative and qualitative chapters. This section, therefore, concerns itself with suggestions about studies that may benefit from the integrational approach to mixed methods data adopted here.

It was established, through the integration of the studies, that the metacognitive and emotion regulation difficulties contributing maintenance of distress related to psychosis experiences are not only associated with the maintenance of distress related to psychosis but they also influence each other. Future research needs to break the divide between cognitive and emotional research on psychosis. Further experimental research could effectively elucidate how and at what stage emotional and cognitive mechanisms interact within the S-REF model.

There is a lack of mixed methods research that is integrated and published as one coherent whole in psychosis research. In recent years, there has been an increase in research focusing on subjective first-person accounts of lived experiences of psychosis (Geekie, Randal, Lampshire & Read, 2013). Qualitative research like this can help improve researchers' understandings of how idiographic and socio-cultural perspectives shape individual's psychological experiences (Wilkinson et al., 2003), this can help to enrich the exploration of different perspectives, while quantitative

research facilitates the investigation of associations. Combined, they provide an avenue for producing more detailed, nuanced and comprehensive investigations of complex psychological concepts.

9.8 Concluding Remarks

In conclusion, this project has found that the factors relating to the maintenance of distress associated with psychosis experiences are complex, and that people's appraisals of their psychosis experiences are idiographic and context dependent. This project provides preliminary findings which associate insecure attachment dimensions with distress related to psychosis. The quantitative results suggest that different psychological vulnerability factors may relate to the maintenance of distress related to positive, negative symptoms of psychosis and depressive symptoms in psychosis. Cognitive and emotional vulnerability factors should be investigated in tandem as they influence each other in the maintenance of distress related to psychosis. The qualitative findings highlighted the importance of perceived lack of control, and internal and external factors on people's appraisals of psychosis experiences. By integrating quantitative and qualitative findings, the emphasis falls on the importance of interpersonal relationships and perceived lack of control related to both cognitive and emotional vulnerability factors that people hold in relation to their psychosis experiences. Attachment-informed care, peer support interventions and metacognitive therapy are proposed for clinical practice as ways to help people feel more in control and build more effective and supportive interpersonal relationships. Beyond the novel findings, this project is also unique in its design, with the use of mixed methods and method of integration. As it is demonstrated in this thesis, mixed methods research has the potential to shed light on complex psychological constructs in a way that is not accessible to quantitative or qualitative methods independently.

Ultimately, there is little merit to gaining a better understanding of distress related to psychosis experiences if this is not translated into better outcomes for people experiencing psychosis. Therefore, further research seeking to develop and evaluate resources and interventions to help people reduce distress related to psychosis experiences is vital. It is hoped that the work described in this thesis can be of some assistance in defining the focus of such endeavours for those working to improve the lives of people suffering from distress related to their psychosis experiences.

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Appendices

Appendix 1. R&D Approval letter

University Hospitals Division

Queen's Medical Research Institute
47 Little France Crescent, Edinburgh, EH16 4TJ

FM/CK/approval

26 May 2015

Dr Sean Harper
2nd Floor, Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh
EH10 5HF



Research & Development
Room E1.12
Tel: 0131 242 3330

Email:
R&DOffice@nhslothian.scot.nhs.uk

Director: Professor David E Newby

Dear Dr Harper

Lothian R&D Project No: 2015/0211

Title of Research: From attachment to distress in psychosis: exploring emotional processes and metacognition as mediating factors

REC No: 15/SS/0069

Participant Information Sheet:

Study 1 - Version 2 dated 13 May 2015

Study 2 - Version 2 dated 13 May 2015

Protocol: Version 2 dated 13 May 2015

Consent Form:

Study 1 - Version 2 dated 13 May 2015

Study 2 - Version 2 dated 13 May 2015

I am pleased to inform you that this study has been approved for NHS Lothian and you may proceed with your research, subject to the conditions below. This letter provides Site Specific approval for NHS Lothian.

Please note that the NHS Lothian R&D Office must be informed if there are any changes to the study such as amendments to the protocol, recruitment, funding, personnel or resource input required of NHS Lothian.

Substantial amendments to the protocol will require approval from the ethics committee which approved your study and the MHRA where applicable.

Please inform this office when recruitment has closed and when the study has been completed.

I wish you every success with your study.

Yours sincerely

Fiona McArdle

Ms Fiona McArdle
Deputy R&D Director

Cc Mr Tim Montgomery
Director of Operations, REH

Appendix 2. NHS Lothian REC approval letter

Version 2

13 May 2015

Lothian NHS Board

South East Scotland Research
Ethics Committee 02

Waverley Gate
2-4 Waterloo Place
Edinburgh
EH1 3EG
Telephone 0131 536 9000



www.nhslothian.scot.nhs.uk

Date 19 May 2015
Your Ref
Our Ref

Enquiries to: Joyce Clearie
Extension: 35674
Direct Line: 0131 465 5674
Email: Joyce.Clearie@nhslothian.scot.nhs.uk

19 May 2015

Miss Melissa Akoral
PhD Candidate
Queen Margaret University
Queen Margaret University, Queen Margaret Drive
EH21 6UU

Dear Miss Akoral

Study title: From attachment to distress in psychosis: exploring emotional processes and metacognition as mediating factors
REC reference: 15/SS/0069
IRAS project ID: 172056

Thank you for your letter of 13th May, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Vice-Chair.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact the REC Manager, Ms Joyce Clearie, joyce.clearie@nhslothian.scot.nhs.uk. Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the



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Chair Mr Brian Houston
Chief Executive Tim Davison

Lothian NHS Board is the common name of Lothian Health Board

study.

- **GP letter - Please reword second paragraph to read as follows**

This study reviewed and given a favourable ethical opinion by the South East Scotland Research Ethics Committee 2 (15-SS-0069) is being conducted by Melissa Akoral, PhD Candidate.

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistration@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from NRES. Guidance on where to register is provided on the HRA website.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering letter on headed paper [Cover letter to ethics with PO response]	1	13 May 2015
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Employers Liability Certificate 2014-15]	1	07 April 2015
GP/consultant information sheets or letters [professionals' information sheet]	2	13 May 2015
Interview schedules or topic guides for participants [Interview schedule]	1	07 April 2015
IRAS Checklist XML [Checklist_07042015]		07 April 2015
IRAS Checklist XML [Checklist_08042015]		08 April 2015
Letter from sponsor [student status confirmation letter]	1	07 April 2015
Other [Dr. Sean Harper CV]	1	07 April 2015
Other [Participant reply slip study 1]	2	13 May 2015
Other [Participant reply slip study 2]	2	13 May 2015
Other [Participant debriefing sheet]	2	13 May 2015
Other [Further information and clarifications]	1	13 May 2015
Other [GP letter]	1	13 May 2015
Participant consent form [Consent form study 1]	2	13 May 2015
Participant consent form [consent form study 2]	2	13 May 2015
Participant information sheet (PIS) [Participant information sheet study 1]	2	13 May 2015
Participant information sheet (PIS) [Participant information sheet 2]	2	13 May 2015
REC Application Form [REC_Form_08042015]		08 April 2015
Research protocol or project proposal [Proposal]	2	13 May 2015
Summary CV for Chief Investigator (CI) [Melissa Akoral CV]	1	07 April 2015
Summary CV for student [Melissa Akoral CV]	1	07 April 2015
Summary CV for supervisor (student research) [Dr. Karen Goodall CV]	1	07 April 2015
Validated questionnaire [CAPE-42]	1	07 April 2015
Validated questionnaire [MCQ-30]	1	07 April 2015
Validated questionnaire [Implicit beliefs about emotions scale]	1	07 April 2015

Validated questionnaire [DERS]	1	07 April 2015
Validated questionnaire [PAM]	1	07 April 2015

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>

HRA Training

We are pleased to welcome researchers and R&D staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

15/SS/0069	Please quote this number on all correspondence
-------------------	---

With the Committee's best wishes for the success of this project.

Yours sincerely



Mr L Murray
A Vice Chair

Email: joyce.clearie@nhslothian.scot.nhs.uk

Enclosures: "After ethical review – guidance for
researchers" [\[SL-AR2\]](#)

Copy to: Ms Kim Gilchrist
Susan Shepherd, NHS Lothian

Recruitment & Personnel Services

St Johns Hospital
The Residences
Block 3/6
Howden Road West
Livingston
EH54 6PP



Private and Confidential

Melissa Akoral
5/1 North Charlotte Street
EDINBURGH

Date: 20 May 2015

Enquiries to: Emma Stanton
Telephone: 01536 523427
Email: emma.stanton@nhslothian.scot.nhs.uk

Dear Melissa

HONORARY CONTRACT

1. I am pleased to offer you an appointment as an Assistant Psychologist at Psychology, 2nd Floor, Mackinnon House, Royal Edinburgh Hospital within NHS Lothian from 1 June 2015 to 31 May 2017.

2. **Personal Property**

The Division accepts no responsibility for damage to, or loss of personal property. You are, therefore, advised to take out an insurance policy to cover your personal property.

3. **Confidentiality and Disclosure of Information**

- 3.1. You may have access to material of a confidential or sensitive nature relating to Division business which should not be divulged to any third party during the period of your honorary contract or any time thereafter without the proper authority having first been given.
- 3.2. 'Confidential Information' shall include all information that has been specifically designated as confidential by the Division and any information that relates to the commercial and financial activities of the Division, the unauthorised disclosure of which would embarrass, harm or prejudice the Division.
- 3.3. All confidential records, documents and other papers, together with any copies or extracts thereof, made or acquired by you in the course of your honorary appointment shall be the property of the Division and must be returned to the Division on the termination of your employment.

- 3.4. (i) **Obligations Arising from Data Protection Act 1998 /IT Security**

Particular regard should be given to your responsibility to abide by the principles of the Data Protection Act 1998, a copy of which is available for reference in the HR Department.



Headquarters
Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG

Chair: Mr Brian Houston
Interim Chief Executive: Tim Davison
Lothian NHS Board is the common name of Lothian Health Board

University Hospitals Division

Queen's Medical Research Institute
47 Little France Crescent, Edinburgh, EH16 4TJ



Admin/CK/EoS

7 February 2017

Dr Sean Harper
2nd Floor, Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh
EH10 5HF

RESEARCH & DEVELOPMENT
Room E1.12
Tel: 0131 242 3330
Email:
R&DOffice@nhslothian.scot.nhs.uk

Director:
Professor David E Newby

Dear Dr Harper

REC No: 15/SS/0069
R&D Project ID No: 2015/0211
Change of Study end date to: 31/07/2017 / Active
Title of Research Distress in psychosis Version

Thank you for submitting the 'Confirmation of End of Study Date' form in respect of the above research project.

The extension to your study date(s) and/or the change to your study status (i.e. continuing to recruit or in follow up) notification has been noted by our department.

A copy of this letter and your form is being sent to the parties mentioned below. If necessary, they will contact you regarding any further information they may require.

Please remember if your extension involves a change of date only, it should be listed in your annual progress report as a minor amendment. If the extension does involve other changes to the protocol e.g. increase in number of study participants, change in protocol definition of the end of study date, change of IMP exposure, addition of a new procedure, a substantial amendment may be required, and you should follow the appropriate procedure.

Yours sincerely

A handwritten signature in cursive script that reads 'Caroline King'.

Mrs Caroline King
Administrative Assistant

cc: Glen Merritt, Accountant, Finance Dept. ACCORD

From: Tan, Chee-Wee
Sent: 01 April 2016 14:25

To: Akoral, Melissa

Cc: Research Ethics

Subject: RE: non-substantial R&D amendments information

Dear Melissa,

Thank you for forwarding on your document for the study. I've had a look at them. I'm satisfied that the amendments for participant recruitment from the 3rd sector is fine. Could I kindly ask that you also inform the QMU sponsor representative who signed off your original NHS REC application so that they're aware of this amendment.

Thanks.

Kind regards,
Chee-Wee

Dr Chee-Wee Tan

Lecturer in Physiotherapy

Convener, University Research Ethics Panel

Queen Margaret University

Musselburgh

United Kingdom

EH21 6UU

Tel: 0131 474 0000

Fax: 0131 474 0001

<http://cheeweeTan.wordpress.com>



**Participant
Information Sheet -Study 1**

Emotion management



You are being invited to take part in a research study. Before you decide whether or not you want to take part I would like you to understand why the research is being done and what taking part would involve for you. Please take the time to read the following information carefully. It describes the study in detail.

Your participation would involve **filling in 5 short questionnaires**. If you like, I can read them to you. Your participation would be very much appreciated.

What is the purpose of the study?

This research is being carried out to help us learn more about the way people experience psychosis. Experiences may include hearing voices, seeing things that other people do not and feeling confused. A lot of people experience psychotic phenomena at some point in their lives, yet often they will not be distressed by them. I am interested in what makes one person more distressed about these experiences than another. Therefore, I am looking at emotional processes (such as, how a person reacts to other's emotions) as well as attachment (such as relationship to one's family) and how they relate to the experience of psychosis.

Why have I been invited?

You have been referred to the study by a member of the Community Mental Health team responsible for your care.

Do I have to take part?

No. It is up to you to decide to take part in the study. If you agree to take part in the study, I will ask you to sign a consent form. The consent form is a way of making sure that you know what you have agreed to.

This project is part of my studies, and it is not related to the care you receive nor your treatment. You are free to withdraw from the study at any point, this will, in any way, affect the standard of care you receive.

What will happen next?

After reading this document, if you want to take part, return the reply slip you were given to either your CMHT worker or to someone in the centre. I will then get in

touch with you to arrange a meeting at a convenient time for you to take part in the study.

What will happen if I take part?

The study is expected to take up to an hour. I will start by answering any questions you might have. Then I will ask you to fill out a form about yourself and 5 questionnaires. If you want, I can read the questions to you.

The questionnaires will ask you to indicate how often a statement applies to you or how much you agree with it. There are no right or wrong answers.

If you are not finished by the end of the hour or you feel tired or distressed before, we can rearrange another meeting time. You can stop for a break whenever you want to, or if you want to stop taking part you can say so at any time. You do not need to provide a reason.

Expenses and payments?

Unfortunately there will be no payment offered for taking part in the study.

What are the possible benefits of taking part?

There is no guarantee that taking part in this research will lead to benefits for you, however it will give you a voice in contributing to research that may inform the care of others in the future.

What are the possible disadvantages or risks of taking part?

There are no known risks with taking part in this study. If you feel distressed or overwhelmed from the nature of the questions, data collection will be stopped immediately and will only resume when or if you feel up to it, after a break or another day that is convenient for you.

If you do not want to resume the study and the questionnaires are not finished I will withdraw your information. This will have no effect on any other care or treatment you are receiving.

If you feel very distressed, not only the study will stop immediately but a CMHT worker will be called in to support you if you want that. If you would prefer to talk to someone else, I can call a Clinical Psychologist that would be of support.

What happens if I don't want to carry on with the study?

You can leave the study at any time without giving a reason; this will have no effect on any other care or treatment you are receiving.

What if there is a problem?

If you have a concern about any aspect of this study please contact Dr. Sean Harper; Sean.Harper@nhslothian.scot.nhs.uk and he will do his best to address your concerns.

If you want to talk to a person independent from the research, you can contact:

Dr. Fiona Barry
Consultant Clinical Psychologist
Department of Psychology
2nd Floor Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh EH10 5HF
Email: Fiona.Barry@nhslothian.scot.nhs.uk
Tel: 0131 537 6902

If you remain unhappy and wish to complain formally, you can do this at NHS Lothian Customer Relations and Feedback Team, 0131 536 3370.

Will my taking part in this study be kept confidential?

I will replace your name with a number so that the answers from the questionnaires cannot be matched to you. The questionnaire data will be seen by me and my supervisors only. It will not be possible to identify you from the data.

The consent form, demographics information and questionnaires will be stored securely at the University. The anonymised information will be entered into a statistical computer programme. All data will be destroyed within five years.

To ensure that the study is run correctly, I will access your case notes to carry out this research, I only need very basic information that will be anonymised with the rest of your data.

With your consent, I will inform your GP that you are taking part.

If you share with me information that leads me to believe that you might be putting your safety or the safety of others at risk, I am required to inform other people involved in your care.

What will happen to the results of the study?

The results of the study will be written up as part of a doctoral thesis and may be published in an academic journal. You will not be identified in any report or publication with all data remaining strictly confidential.

If you want information on the results of the study, I will write up a summary of the results and leave copies of the summary at the CMHT Centre, just ask a member of staff.

I will also put the summary of the results on my University profile page:

<http://www.qmu.ac.uk/psych/people/Akoral.htm>

If you would like me to email you the summary, send me an email and I will happily forward you a copy.

Time to consider

You should take at least 24 hours to decide if you wish to take part.

Who has reviewed the Study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the South East Scotland Research Ethics Committee REC2.

Further information and contact details

If you require further information or have any questions or concerns you can contact:

Researcher:

Melissa Akoral, PhD Candidate

Queen Margaret University

Queen Margaret Drive,

Musselburgh EH21 6UU

Email: makoral@qmu.ac.uk

Tel: 0131 474 0000

Clinical supervisor:

Dr. Sean Harper

2ndFloor, Mackinnon House

Royal Edinburgh Hospital

Tipperlinn Road

EDINBURGH EH10 5HF

Email:

Sean.Harper@nhslothian.scot.nhs.uk

Tel: 0131 537 6912

Dr. Karen Goodall

Psychology & Sociology

Queen Margaret University

Queen Margaret Drive,

Musselburgh EH21 6UU

Email: KGoodall@qmu.ac.uk

Tel : 0131 474 0000

you

Thank

Participant Information Sheet - Study 2



Emotion management



You are being invited to take part in a research study. Before you decide whether or not you want to take part I would like you to understand why the research is being done and what taking part would involve for you. Please take the time to read the following information carefully. It describes the study in detail.

Your participation would involve taking part in a **follow-up interview expected to last around 1 hour**. Your participation would be very much appreciated.

What is the purpose of the study?

This research is being carried out to help us learn more about the way people experience psychosis. Experiences may include hearing voices, seeing things that other people do not and feeling confused. A lot of people experience psychotic phenomena at some point in their lives, yet often they will not be distressed by them. I am interested in what makes one person more distressed about these experiences than another. Therefore, I am looking at emotional processes (such as, how a person reacts to other's emotions) as well as attachment (such as relationship to one's family) and how they relate to the experience of psychosis.

Why have I been invited?

You have showed interest in taking part following the questionnaire session. You returned the reply slip I gave you, allowing me to contact you for this study.

Do I have to take part?

No. It is up to you to decide to take part in the study. If you agree to take part in the study, I will ask you to sign a consent form. The consent form is a way of making sure that you know what you have agreed to.

This project is part of my studies, and it is not related to the care you receive nor your treatment. You are free to withdraw from the study at any point, this will, in any way, affect the standard of care you receive.

What will happen next?

After reading this document, if you want to take part, I will get in touch with you to arrange a meeting at a convenient time for you. We will meet at the CMHT Centre at your convenience.

What will happen if I take part?

I will start by answering any questions you might have. Then I will ask you a few questions. The interview is expected to take approximately an hour.

I will be audio-recording the interview to make sure that I do not miss anything you say and to make sure the interview is transcribed appropriately. I will be the only one to listen to the recordings and I will transcribe the information in private. The transcripts will be anonymised with the ID number I already gave you in the first study.

If we are not finished by the end of the hour or you feel tired or distressed before, we can rearrange another meeting time. We can stop for a break whenever you want to, or if you want to stop taking part you can say so at any time. You do not need to provide a reason.

Expenses and payments?

Unfortunately there will be no payment offered for taking part in the study.

What are the possible benefits of taking part?

There is no guarantee that taking part in this research will lead to benefits for you, however it will give you an opportunity to talk about your experience of psychosis. As well as having a voice in contributing to research that may inform the care of others in the future.

What are the possible disadvantages or risks of taking part?

There are no known risks with taking part in this study. If you feel distressed or overwhelmed from the nature of the questions, the interview will be stopped immediately and will only resume when you feel up to it, after a break or another day that will be convenient for you.

If you do not want to resume the study, I will keep the answers you already gave me. Unless you ask me to do otherwise.

If you feel very distressed, not only the interview will stop immediately but a CMHT worker will be called in to support you if you want that. If you would prefer to talk to someone else, I can call a Clinical Psychologist that would be of support.

What happens if I don't want to carry on with the study?

You can leave the study at any time without giving a reason; this will have no effect on any other care or treatment you are receiving.

What if there is a problem?

If you have a concern about any aspect of this study please contact Dr. Sean Harper; Sean.Harper@nhslothian.scot.nhs.uk and he will do his best to address your concerns.

If you want to talk to a person independent from the research, you can contact:

Dr. Fiona Barry
Consultant Clinical Psychologist
Department of Psychology
2nd Floor Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh EH10 5HF
Email: Fiona.Barry@nhslothian.scot.nhs.uk
Tel: 0131 537 6902

If you remain unhappy and wish to complain formally, you can do this at NHS Lothian Customer Relations and Feedback Team, 0131 536 3370.

Will my taking part in this study be kept confidential?

I will replace your name with a number so that the transcribed answers from the interview cannot be matched to you. The transcribed data will be seen by me and my supervisors only. It will not be possible to identify you from the transcripts.

I will be the only one to transcribe the audio-recordings of our interview. The audio files will be stored securely at the University. The anonymised information will be entered into a computer programme. All audio files will be destroyed after the information is analysed, in less than five years.

With your consent, I will inform your GP that you are taking part.

If you share with me information that leads me to believe that you might be putting your safety or the safety of others at risk, I am required to inform other people involved in your care.

What will happen to the results of the study?

The results of the study will be written up as part of a doctoral thesis and may be published in an academic journal. You will not be identified in any report or publication with all data remaining strictly confidential.

If you want, I will send you the interview transcripts for you to verify that all the information is there in the way you meant it. If you want to, I will also send you the

analysis of your interview for you to comment on. Just let me know if you are interested or not, when we meet, by email or phone.

If you want information on the results of the study, I will write up a summary of the results and leave copies of the summary at the CMHT Centre, just ask a member of staff.

I will also put the summary of the results on my University profile page:

<http://www.qmu.ac.uk/psych/people/Akoral.htm>

If you would like me to email you the summary, send me an email and I will happily forward you a copy.

Time to consider

You should take at least 24 hours to decide if you wish to take part.

Who has reviewed the Study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the South East Scotland Research Ethics Committee REC2.

Further Information and contact details

If you require further information or have any questions or concerns you can contact me at:

Melissa Akoral, PhD Candidate
Queen Margaret University
Queen Margaret Drive,
Musselburgh EH21 6UU
Email: makoral@qmu.ac.uk
Tel: 0131 474 0000

Or my supervisors:
Dr. Karen Goodall
Psychology & Sociology
Queen Margaret University
Queen Margaret Drive,
Musselburgh EH21 6UU
Email: KGoodall@qmu.ac.uk
Tel : 0131 474 0000

Clinical supervisor:
Dr. Sean Harper
2ndFloor, Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
EDINBURGH EH10 5HF
Email: Sean.Harper@nhslothian.scot.nhs.uk
Tel: 0131 537 6912

Thank you

Professionals' information sheet



Queen Margaret University
EDINBURGH

Emotion management



My name is Melissa Akoral and I am
candidate at Queen Margaret

a PhD

University. I am currently undertaking a study which examines the factors that relate to distress in people with experiences of psychosis.

The purpose of this sheet is to explain more about the study so you can decide if any of your clients might wish to take part.

Psychosis can be a very distressing experience and yet there are people who experience psychosis, and do not come into contact with mental health services because they are not distressed by their experience. This study will investigate the extent to which certain factors can predict how distressing people feel their experience of psychosis to be. The factors to be measured are attachment (i.e. the individual's internal model of relationships), emotion regulation skills and metacognition (i.e. beliefs about our own thinking).

- Psychosis and distress – which experiences they might have had and how they felt about these experiences
- Attachment – this describes their own model of how relationships work
- Emotion regulation – this refers to people's ability to know what they are feeling and ways in which they might manage emotions (e.g. listening to nice music when you are feeling down)
- Metacognition – this refers to how people think about their own thinking, for example noticing when your thoughts are negative or unhelpful.

These factors have been noted to play a significant role in the development and maintenance of psychosis experiences and therefore distress levels. I am interested in how they interact.

Who to refer to the study?

Participants must be aged over 16 years old but there is no upper age limit.

For inclusion, participants need to meet the ICD-10 (WHO, 1992) criteria for Schizophrenia, Schizoaffective or Schizotypal disorders, Bipolar disorders with psychotic features or psychosis not otherwise specified and/or the DSM-V criteria for

psychosis (APA, 2014). Individuals who have a learning disability (as stipulated by the ICD-10 or the DSM-V) are not eligible for participation.

Participants have to be in a capacity to consent and speak English (as all questionnaires have been validated in English). I will offer to read the questions aloud if the participants prefer.

How to refer into the study

Identify someone that fits the inclusion and exclusion criteria in your Community Mental Health Centre. If the potential participants show interest give them the information pack. There is a reply slip in the pack. If the participant is interested ask them to complete the reply slip and return it to you to give me. Or ask them to return the reply slip to reception next time they are in the centre.

What happens to people in the study?

People will meet with me (Melissa Akoral; principal investigator) up to an hour to answer several questionnaires on attachment, emotional processes, metacognition and psychosis. They will have the opportunity to do this over more than one session if they prefer.

Participants will be asked if they would like to participate in a follow-up interview at the end of the session and if they agree, they will be asked to complete a reply slip allowing the researcher to contact them once more for a semi-structured interview expected to last up to an hour.

What will happen to the results of the study?

The results of the study will be written up as part of a doctoral thesis and may be published in an academic journal. Participant data will be stored using participant numbers. These numbers will be stored separately to consent forms. Only my supervisors and I will have access to the data. It will not be possible to identify individual participants in any subsequent report.

Participants who take part in the second study (the interview study) will be offered the opportunity to comment on the transcripts of their interview to verify that all the information accurately represents what they intended it to mean. Also, if they are interested, I will send them the analysis of their interview for them to contribute to its analysis. They will only need to let me know if they are interested when we meet, by email or telephone.

If you want information on the results of the study, I will write up a summary of the results and leave copies of the summary at the CMHT Centre.

I will also put the summary of the results on my University profile page:
<http://www.qmu.ac.uk/psych/people/Akoral.htm>

If you would like me to email you the summary, send me an email and I will happily forward you a copy.

What are the benefits of this research?

There is no guarantee that taking part in this research will lead to benefits for the participants, however it will give them a voice in contributing to research that may inform the care of others in the future.

Who has reviewed the Study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the South East Scotland Research Ethics Committee REC2.

Any Questions? If you have any more questions please get in touch with me at:

Researcher:
Melissa Akoral, PhD Candidate
Queen Margaret University
Queen Margaret Drive,
Musselburgh EH21 6UU
Email: makoral@qmu.ac.uk

Or, feel free to contact my supervisors at:

Dr. Karen Goodall
Psychology & Sociology
Queen Margaret University
Queen Margaret Drive,
Musselburgh EH21 6UU
Email: KGoodall@qmu.ac.uk
Tel: 0131 474 0000

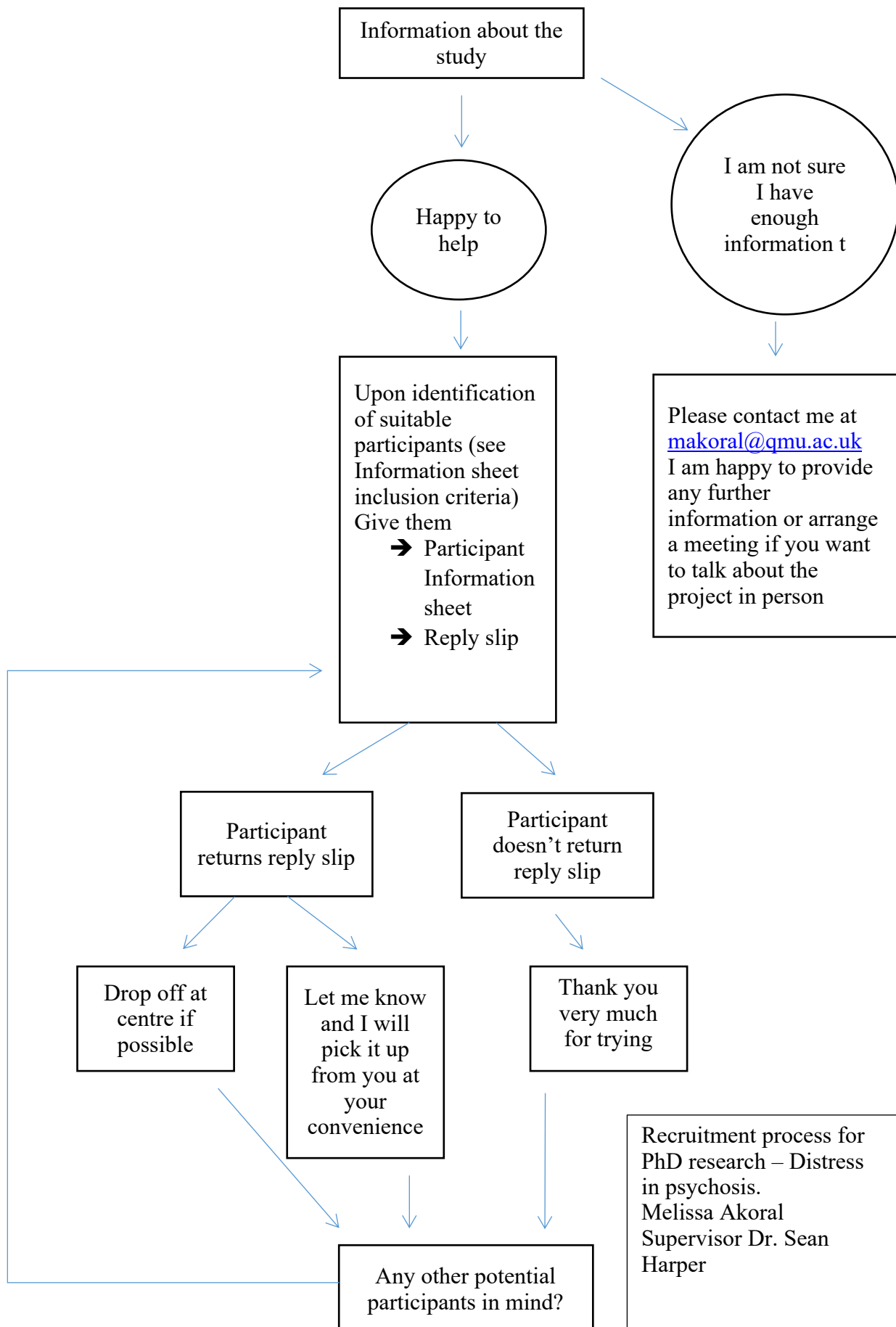
Thank you

Clinical supervisor: Dr. Sean Harper
2ndFloor, Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh EH10 5HF
Email: Sean.Harper@nhslothian.scot.nhs.uk
Tel: 0131 537 6912

If you want to talk to an independent adviser please contact:

Dr. Fiona Barry
Consultant Clinical Psychologist
Department of Psychology
2ndFloor Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh EH10 5HF
Email:
Fiona.Barry@nhslothian.scot.nhs.uk
Tel: 0131 537 690

Appendix 9. Recruitment flowchart



Appendix 10. Reply Slip Study 1

Reply slip study 1



Queen Margaret University
EDINBURGH

Emotion management



If you decide to take part, please keep the information sheet and return this reply form to your CMHT worker or to anyone in the centre.

Name: _____

Address:

Would you prefer to be contacted by:

phone call

Text message

email

Telephone number at home /work/ mobile (if appropriate):

Email: _____

Best time to telephone / text / email (tick when appropriate):

	Monday	Tuesday	Wed	Thursday	Friday	Sat	Sunday
Morning							
Evening							

Thank you very much

Appendix 11. *Reply Slip Study 2*

Reply slip Study 2

Emotion management



Queen Margaret University
EDINBURGH



Thank you so much for participating in the questionnaire study.

One last thing I would like to ask you today. Would you like to participate in a second study that will be a semi-structured interview that is expected to last up to an hour. You do not have to if you don't want to. This will not have any impact on the questionnaires you just completed.

Participant ID Number: _____

Address:

Would you prefer to be contacted by:

Phone call

Text message

email

Telephone number at home / work/ mobile (if appropriate):

Email: _____

Best time to telephone / text / email (tick when appropriate):

	Monday	Tuesday	Wed	Thursday	Friday	Sat	Sunday
Morning							
Evening							

Thank you very much

Appendix 12. Consent form Study 1



Consent form Study 1

Emotion management



Name of Researcher: Melissa Akoral

Email: makoral@qmu.ac.uk

Participant ID No.: _____

1. I confirm that I have read and understand the Participant Information Sheet dated 13 May 2015 for the above study. I have had the opportunity to consider the information, ask questions and had these answered satisfactorily (Version 2, 13 May 2015). ☐
2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐
3. I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals at QMU or authorities from NHS Lothian, when it is relevant to my taking part in this research. I give permission for these individuals to access my records. ☐
4. I understand that it may be difficult or upsetting to talk about my experiences of mental health difficulties, and that I will be given information on how to obtain support if this is required. ☐
5. I understand that if there are concerns about a risk of harm to myself or others during my participation, the researcher will take appropriate action. This will involve contacting other professionals, including my GP, in order to communicate information relevant to concerns about risks of harm. ☐
6. I understand that I will be required to meet with the researcher on one or more occasions, for approximately one hour overall. ☐
7. I agree to my General Practitioner being informed of my participation to this study. ☐
8. I understand that I will not be identified in any publications that may arise following this study. ☐
9. I agree to participate in the above study. ☐

Name of participant

Date

Signature

Name of person taking consent

Date

Signature

Appendix 13. *Consent form Study 2*

Consent form Study 2



Emotion management



Name of Researcher: Melissa Akoral

Email: makoral@qmu.ac.uk Participant ID No.: _____

Please tick:

1. I confirm that I have read and understand the Participant Information Sheet dated 13 May 2015 for the above study. I have had the opportunity to consider the information ask questions and had these answered satisfactorily (Version 2, 13 May 2015) ☐
2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐
3. I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals at QMU or authorities from NHS Lothian, when it is relevant to my taking part in this research. I give permission for these individuals to access my records. ☐
4. I understand that it may be difficult or upsetting to talk about my experiences of mental health difficulties, and that I will have access to professional support if this is required. ☐
5. I understand that if there are concerns about a risk of harm to myself or others during my participation, the researcher will take appropriate action. This will involve contacting other professionals, including my GP, in order to communicate information relevant to concerns about risks of harm. ☐
6. I understand that I will be required to meet with the researcher on one or more occasions, for approximately one hour overall. ☐
7. I understand that my interview will be audio-recorded for the purposes outlined in the in the Participant Information Sheet (Version 2, 13 May 2015) ☐
8. I understand that excerpts from the interview maybe included in the thesis/publications from the research, and the understanding that the quotations will be anonymous. ☐
9. I agree to my General Practitioner being informed of my participation to this study. ☐
10. I agree to participate in the above study. ☐

_____ Name of participant	_____ Date	_____ Signature
_____ Name of person taking consent	_____ Date	_____ Signature

Appendix 14. *GP Letter*



GP Letter
Emotion management



Date:

Dr [xxx] [Address]

Dear Dr [xxx]

Re: Study title: From attachment to distress in psychosis: exploring emotional processes and metacognition as mediating factors

REC reference: 15-SS-0069

Patient name

The above patient has kindly agreed to take part in a research entitled: **From attachment to distress in psychosis: exploring emotional processes and metacognition as mediating factors**. The study is part of an educational project at Queen Margaret University. This is a mixed methods study investigating factors between adult attachment patterns and distress levels in psychosis. The factors to be investigated in this study are metacognition, emotional awareness, emotion regulation and beliefs about emotions. The participants will be asked to complete five short questionnaires on emotion regulation, attachment and metacognition. They will also be asked to participate in a follow-up semi-structured interview afterwards, participants will not be contacted again if they are not interested in taking part in the qualitative study.

This study reviewed and given a favourable ethical opinion by the South East Scotland Research Ethics Committee 2 (15-SS-0069) is being conducted by Melissa Akoral, PhD Candidate.

A copy of the participant information sheet is enclosed for your information. Should you have any questions regarding this study, please do not hesitate to contact me by email (MAkoral@qmu.ac.uk), or telephone (0131 474 0000; voice operated, state “Melissa Akoral” when prompted).

Yours sincerely,
Melissa Akoral
PhD Candidate
Queen Margaret Drive,
Musselburgh EH21 6UU

Appendix 15. *Study 2 Interview Schedule*

We will start with reintroduction and rapport building between the participant and the researcher.

Confidentiality and consent will be re-emphasised and the information sheet will be re-read and discussed.

“The interview will last about an hour, we can stop at any time. I will be asking you about your experience. Any questions you may have will be addressed.”

Semi-structured interview schedule

1. Can you tell me a bit about the experiences that you had that led you to seek medical help? Or did someone seek it for you?
 - What types of experiences did you have?
 - When did they begin?
 - If someone made them seek help: who was it? How did that make you feel?
2. How long did you have these experiences before you/someone felt they had become problematic?
 - What kinds of problems did they pose?
 - Did you feel you had any control over these experiences?
3. How would you describe the feelings that you had in relation to any of these experiences?
 - For example, were any of the experiences a positive experience?
 - Which experiences were good ones?
 - Did any of the experiences make you feel a negative feeling?
 - Any experiences that were particularly distressing?
 - Did your feelings towards these experiences change over time?
4. Did you feel that you could influence the way you felt about these experiences at any point?
 - Were there circumstances that could change the way you felt about your experiences?

- For example, did day-to-day stress affect your perceptions?
 - Or were there people who/things that helped make you feel better?
5. Is there anything that you have learned that helps you to cope with these feelings?
 6. How well does it work to deal with your feelings the way that you do?
 - Is there anything you could recommend to others in a similar situation that might help to make them feel better?
 - What advice would you give to friends or family of people in your situation that might help them to help that person cope with their feelings?

General prompts: Can you tell me more about that?

Probes: You mentioned.....what do you mean by that?

In what way?

Ending:

Is there anything you would like to share with me about your experience?

Can you tell me a bit about how it has been like to be interviewed today and what impact it will have on you?

Has there been anything particularly difficult or distressing to talk about?

Is there anything you would like to ask me?

Appendix 16. Example of transcript coding

Exploratory comments	Original transcript	Emerging themes
<p>1</p> <p>2 'a point' was it a turning point?</p> <p>3 15 years ago.</p> <p>4 multiple lookalikes.</p> <p>5 look 'indicative' - talk to psychiatrist</p> <p>6 Authority figure?</p> <p>7 Not happening / Not possible</p> <p>8 but what is real?</p> <p>9 almost non-analysed view</p>	<p>M: Can you tell me tell me a bit about your experience of psychosis?</p> <p>J: There was a point about 15 years ago when I started noticing that emm I was actually seeing more than one father and mother that I was actually seeing multiple lookalikes. I explained this to Dr M. He said: "That's not what is happening [laughs]. That's not possible to be happening." So he reckoned at that point I was suffering from something that caused me to be seeing such things.</p> <p>M: Okay</p> <p>J: Uh huh. The other thing I noticed 15-20 years ago was that, sometimes that my vision would get blurred and it would sometimes, I felt as if I was moving in to a different location and actually I was seeing something there. There was a point where I was at the Royal Edinburgh Hospital a number of years ago, I was sitting on the ward when I looked at the ceiling a big ornate 300 year old living room with a big ornate piano where you would play... where you would hear chamber music, 17th-18th century place. It only lasted about a minute or so and my vision came back again and I was still in the hospital, in the ward. So I mentioned that to the staff, I don't know if they mentioned that to the doctor. Eh, I feel these things happened to me a number of years ago, I haven't had these symptoms now for a number of years eth... it's still</p>	<p>Turning point</p> <p>medical model</p> <p>psychiatrist authority</p> <p>initiative</p>
<p>10 15-20 years ago.</p> <p>11 seeing → what? action?</p> <p>12 actually → what is real?</p>	<p>J: Uh huh. The other thing I noticed 15-20 years ago was that, sometimes that my vision would get blurred and it would sometimes, I felt as if I was moving in to a different location and actually I was seeing something there. There was a point where I was at the Royal Edinburgh Hospital a number of years ago, I was sitting on the ward when I looked at the ceiling a big ornate 300 year old living room with a big ornate piano where you would play... where you would hear chamber music, 17th-18th century place. It only lasted about a minute or so and my vision came back again and I was still in the hospital, in the ward. So I mentioned that to the staff, I don't know if they mentioned that to the doctor. Eh, I feel these things happened to me a number of years ago, I haven't had these symptoms now for a number of years eth... it's still</p>	<p>Time</p>
<p>15 unusual exp.</p> <p>17 back in time vision, better times?</p>	<p>J: Uh huh. The other thing I noticed 15-20 years ago was that, sometimes that my vision would get blurred and it would sometimes, I felt as if I was moving in to a different location and actually I was seeing something there. There was a point where I was at the Royal Edinburgh Hospital a number of years ago, I was sitting on the ward when I looked at the ceiling a big ornate 300 year old living room with a big ornate piano where you would play... where you would hear chamber music, 17th-18th century place. It only lasted about a minute or so and my vision came back again and I was still in the hospital, in the ward. So I mentioned that to the staff, I don't know if they mentioned that to the doctor. Eh, I feel these things happened to me a number of years ago, I haven't had these symptoms now for a number of years eth... it's still</p>	<p>Passing of time</p>
<p>20 authority?</p> <p>21 happened to me disturbingly all?</p> <p>22 haven't had symptoms for number of years</p>	<p>J: Uh huh. The other thing I noticed 15-20 years ago was that, sometimes that my vision would get blurred and it would sometimes, I felt as if I was moving in to a different location and actually I was seeing something there. There was a point where I was at the Royal Edinburgh Hospital a number of years ago, I was sitting on the ward when I looked at the ceiling a big ornate 300 year old living room with a big ornate piano where you would play... where you would hear chamber music, 17th-18th century place. It only lasted about a minute or so and my vision came back again and I was still in the hospital, in the ward. So I mentioned that to the staff, I don't know if they mentioned that to the doctor. Eh, I feel these things happened to me a number of years ago, I haven't had these symptoms now for a number of years eth... it's still</p>	

Appendix 17. *Demographics form*

Participant ID No.: _____

D.O.B _____
/Female/other

Gender(please circle) **Male**

Relationship status (please circle)

Single - In a relationship - Married - Divorced - Widowed - Other (please state)

Ethnicity(please circle)

White

Mixed - Asian; Asian Scottish; Asian British - Black; Black Scottish; Black British

Other ethnic background / Prefer not to answer

What age were you when you first experienced mental health difficulties? _____

When did you first feel the need to seek support in dealing with your experiences?

Are re you currently taking any medication? _____

If yes, do you know the name of your medication? _____

When (if at all) were you last admitted to hospital? _____

Appendix 18. *Psychosis Attachment Measure*

We all differ in how we relate to other people. This questionnaire will ask you about different thoughts, feelings and ways of behaving in relationships with others.

Thinking generally about how you relate to other key people in your life, please use a tick to show how much each statement is like you from ‘not at all’ to ‘very much’.

Key people could include family members, friends, partner or mental health workers.

There are no right or wrong answers.

		Not at all	A little	Quite a bit	Very much
1	I prefer not to let other people know my ‘true’ thoughts and feelings.	1	2	3	4
2	I find it easy to depend on other people for support with problems or difficult situations.	1	2	3	4
3	I tend to get upset, anxious or angry if other people are not there when I need them.	1	2	3	4
4	I usually discuss my problems and concerns with other people.	1	2	3	4
5	I worry that key people in my life won’t be around in the future.	1	2	3	4
6	I ask other people to reassure me that they care about me.	1	2	3	4
7	If other people disapprove of something I do, I get very upset.	1	2	3	4
8	I find it difficult to accept help from other people when I have problems or difficulties.	1	2	3	4
9	It helps to turn to other people when I’m stressed.	1	2	3	4
10	I worry that if other people get to know me better, they won’t like me.	1	2	3	4

11	When I'm feeling stressed, I prefer being on my own to being in the company of other people.	1	2	3	4
12	I worry a lot about my relationships with other people.	1	2	3	4
13	I try to cope with stressful situations on my own.	1	2	3	4
14	I worry that if I displease other people, they won't want to know me anymore.	1	2	3	4
15	I worry about having to come with problems and difficult situations on my own.	1	2	3	4
16	I feel uncomfortable when other people want to get to know me better.	1	2	3	4

PART B

In answering the previous questions, what relationships were you thinking about?

(E.g. relationship with mother, father, sister, brother, husband, wife, friend, romantic partner, mental health workers etc)

Appendix 19. Difficulties in Emotion Regulation Scale

Please indicate how often the following statements apply to you.

Ranging from 1=almost never (0-10%), 2=sometimes (11-35%), 3=about half the time (36-65%), 4=most of the time (66-90%), 5=almost always (91-100%).

There is no write or wrong answer.

		almost never	somet imes	about half the time	most of the time	almost always
1	I am clear about my feelings.	1	2	3	4	5
2	I pay attention to how I feel.	1	2	3	4	5
3	I experience my emotions as overwhelming and out of control.	1	2	3	4	5
4	I have no idea how I am feeling.	1	2	3	4	5
5	I have difficulty making sense out of my feelings.	1	2	3	4	5
6	I am attentive to my feelings.	1	2	3	4	5
7	I know exactly how I am feeling.	1	2	3	4	5
8	I care about what I am feeling.	1	2	3	4	5
9	I am confused about how I feel.	1	2	3	4	5
10	When I'm upset, I acknowledge my emotions.	1	2	3	4	5
11	When I'm upset, I become angry with myself for feeling that way.	1	2	3	4	5
12	When I'm upset, I become embarrassed for feeling that way.	1	2	3	4	5
13	When I'm upset, I have difficulty getting work done.	1	2	3	4	5

14	When I'm upset, I become out of control.	1	2	3	4	5
15	When I'm upset, I believe that I will remain that way for a long time.	1	2	3	4	5
16	When I'm upset, I believe that I'll end up feeling very depressed.	1	2	3	4	5
17	When I'm upset, I believe that my feelings are valid and important.	1	2	3	4	5
18	When I'm upset, I have difficulty focusing on other things.	1	2	3	4	5
19	When I'm upset, I feel out of control.	1	2	3	4	5
20	When I'm upset, I can still get things done.	1	2	3	4	5
21	When I'm upset, I feel ashamed with myself for feeling that way.	1	2	3	4	5
22	When I'm upset, I know that I can find a way to eventually feel better.	1	2	3	4	5
23	When I'm upset, I feel like I am weak.	1	2	3	4	5
24	When I'm upset, I feel like I can remain in control of my behaviours.	1	2	3	4	5
25	When I'm upset, I feel guilty for feeling that way.	1	2	3	4	5

		almost never	somet imes	about half the time	most of the time	almost always
26	When I'm upset, I have difficulty concentrating.	1	2	3	4	5
27	When I'm upset, I have difficulty controlling my behaviours.	1	2	3	4	5
28	When I'm upset, I believe that there is nothing I can do to make myself feel better	1	2	3	4	5
29	When I'm upset, I become irritated with myself for feeling that way.	1	2	3	4	5
30	When I'm upset, I start to feel very bad about myself.	1	2	3	4	5
31	When I'm upset, I believe that wallowing in it is all I can do	1	2	3	4	5
32	When I'm upset, I lose control over my behaviours.	1	2	3	4	5
33	When I'm upset, I have difficulty thinking about anything else.	1	2	3	4	5
34	When I'm upset, I take time to figure out what I'm really feeling.	1	2	3	4	5
35	When I'm upset, it takes me a long time to feel better.	1	2	3	4	5
36	When I'm upset, my emotions feel overwhelming.	1	2	3	4	5

Appendix 20. *Metacognitions Questionnaire*

This questionnaire is concerned with beliefs people have about their thinking. Listed below are a number of beliefs that people have expressed. Please read each item and indicate how much you generally agree with it by circling the appropriate number. The answers can be rated from “Do not agree” = 1 to “Agree very much” = 4.

Please respond to all of the items, there are no right or wrong answers.

		Do not agree	Agree slightly	Agree moderately	Agree very much
1	My worrying is dangerous for me.	1	2	3	4
2	My worrying could make me go mad.	1	2	3	4
3	I have poor memory	1	2	3	4
4	I cannot ignore my worrying thoughts	1	2	3	4
5	I need to worry in order to remain organised	1	2	3	4
6	I pay close attention to the way my mind works	1	2	3	4
7	I could make myself sick with worrying	1	2	3	4
8	I have little confidence in my memory for words and names	1	2	3	4
9	I need to worry in order to work well	1	2	3	4
10	I think a lot about my thoughts	1	2	3	4
11	I do not trust my memory	1	2	3	4
12	I have little confidence in my memory for words and names	1	2	3	4
13	I will be punished for not controlling certain thoughts	1	2	3	4
14	It is bad to think certain thoughts	1	2	3	4
15	I am aware of the way my mind works when I am thinking through a problem	1	2	3	4
16	My worrying thoughts persist, no matter how I try to stop them	1	2	3	4

17	I constantly examine my thoughts	1	2	3	4
18	I have a little confidence in my memory for actions	1	2	3	4
19	I should be in control of my thoughts all of the time	1	2	3	4

		Do not agree	Agree slightly	Agree moderately	Agree very much
20	Worrying helps me to solve problems	1	2	3	4
21	Worrying helps me to avoid problems in the future	1	2	3	4
22	Worrying helps me cope	1	2	3	4
23	If I did not control a worrying thought and then it happened, it would be my fault	1	2	3	4
24	I am constantly aware of my thinking	1	2	3	4
25	Not being able to control my thoughts is a sign of weakness	1	2	3	4
26	If I could not control my thoughts, I would not be able to function	1	2	3	4
27	My memory can mislead me at times	1	2	3	4
28	Worrying helps me to get things sorted out in my mind	1	2	3	4
29	I monitor my thoughts	1	2	3	4
30	When I start worrying I cannot stop	1	2	3	4

Appendix 21. *Community Assessment of Psychic Experiences*

This questionnaire is designed to assess beliefs and vivid mental experiences. We believe these are much more common than previously believed, and that many people have had such experiences during their lives. Please answer these questions as honestly as you can. There are no right and wrong answers and no trick questions. Each question can be treated from "never" to "nearly always".

We are not interested in experiences you may have had under the influence of drugs or alcohol.

In the questions you answered "sometimes", "often" or "nearly always" we are interested in how distressing those beliefs or experiences are. So choose one alternative that best describes the degree of discomfort that belief created.

1. Do you ever feel sad? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 2

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

2. Do you ever feel as if people seem to drop hints about you or say things with a double meaning? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 3

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

3. Do you ever feel that you are not a very animated person? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 4

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

4. Do you ever feel that you are not much of a talker when you are conversing with other people? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 5

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

5. Do you ever feel as if things in magazines or on TV were written especially for you? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 6

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

6. Do you ever feel as if some people are not what they seem to be? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 7

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

7. Do you ever feel as if you are being persecuted in some way? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 8

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

8. Do you ever feel that you experience few or no emotions at important events? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 9

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

9. Do you ever feel pessimistic about everything? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 10

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

10. Do you ever feel as if there is a conspiracy against you? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 11

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

11. Do you ever feel as if you are destined to be someone very important? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 12

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

12. Do you ever feel as if there is no future for you? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 13

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

13. Do you ever feel that you are a very special or unusual person? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 14

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

14. Do you ever feel as if you do not want to live anymore? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 15

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

15. Do you ever think that people can communicate telepathically? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 16

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

16. Do you ever feel that you have no interest to be with other people? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 17

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

17. Do you ever feel as if electrical devices such as computers can influence the way you think? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 18

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

18. Do you ever feel that you are lacking in motivation to do things? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 19

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

19. Do you ever cry about nothing? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 20

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

20. Do you believe in the power of witchcraft, voodoo or the occult? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 21

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

21. Do you ever feel that you are lacking in energy? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 22

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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22. Do you ever feel that people look at you oddly because of your appearance? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 23

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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23. Do you ever feel that your mind is empty? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 24

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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24. Do you ever feel as if the thoughts in your head are being taken away from you? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 25

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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25. Do you ever feel that you are spending all your days doing nothing? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 26

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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26. Do you ever feel as if the thoughts in your head are not your own? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 27

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

27. Do you ever feel that your feelings are lacking in intensity? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 28

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

28. Have your thoughts ever been so vivid that you were worried other people would hear them? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 29

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

29. Do you ever feel that you are lacking in spontaneity? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 30

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed
distressed A bit distressed Quite distressed Very

30. Do you ever hear your own thoughts being echoed back to you? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 31

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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31. Do you ever feel as if you are under the control of some force or power other than yourself? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 32

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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32. Do you ever feel that your emotions are blunted? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 33

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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33. Do you ever hear voices when you are alone? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 34

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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34. Do you ever hear voices talking to each other when you are alone? (please tick)

Never	Sometimes	Often	Nearly always
-------	-----------	-------	---------------

If you ticked "never", please go to question 35

If you ticked "sometimes", "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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35. Do you ever feel that you are neglecting your appearance or personal hygiene? (please tick)

Never	Sometimes	Often	Nearly always
-------	-----------	-------	---------------

If you ticked "never", please go to question 36

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
------------------------------	------------------	------------------	------

36. Do you ever feel that you can never get things done? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 37

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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37. Do you ever feel that you have only few hobbies or interests? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 38

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
------------------------------	------------------	------------------	------

38. Do you ever feel guilty? (please tick)

Never	Sometimes	Often	Nearly always
-------	-----------	-------	---------------

If you ticked "never", please go to question 39

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
------------------------------	------------------	------------------	------

39. Do you ever feel like a failure? (please tick)

Never	Sometimes	Often	Nearly always
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If you ticked "never", please go to question 40

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed distressed	A bit distressed	Quite distressed	Very
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40. Do you ever feel tense? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 41

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

41. Do you ever feel as if a double has taken the place of a family member, friend or acquaintance? (please tick)

Never Sometimes Often Nearly always

If you ticked "never", please go to question 42

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

42. Do you ever see objects, people or animals that other people cannot see?(please tick)

Never Sometimes Often Nearly always

If you ticked "never", you are now ready

If you ticked "sometimes" , "often" or "nearly always" please indicate how distressed you are by this experience: (please tick)

Not distressed A bit distressed Quite distressed Very distressed

Appendix 22. *Duration of tasks Study 1*

Task	Duration
Demographic information sheet	approx. 2 minutes
Community Assessment Psychic Experiences-42 (CAPE-42)	approx. 13 minutes
Psychosis Attachment Measure	approx. 6 minutes
Difficulties in Emotion Regulation Scale - Part 1	approx. 5 minutes
Break - If needed	5 to 10 minutes
Difficulties in Emotion Regulation Scale - Part 2	approx. 5 minutes
Metacognitions Questionnaire (MCQ-30)	approx. 10 minutes
Total	up to approx. 45 minutes

Participant debriefing sheet



Emotion management



Thank you for taking part in this research.

This sheet lets you know more about the study in which you have taken part. If you have any questions about the study, the questionnaires or the interview please feel free to ask them. Please keep this sheet for reference. If you have questions afterwards you can contact me using the details below.

An experience of psychosis can be very distressing. These experiences include hearing voices or seeing things that others do not hear or see or noticing things that other people tend not to pay attention to. Some people find this more distressing than others and the study you took part in examines what might make one person more distressed about these experiences than another. In this study you filled out questionnaires on:

- Psychosis and distress – which experiences you might have had and how you felt about these experiences
- Attachment – this describes your own model of how relationships work
- Emotion regulation – this refers to people's ability to know what they are feeling and ways in which they might manage emotion (e.g. listening to nice music when you are feeling down)
- Metacognition – this refers to how people think about their own thinking, for example noticing when your thoughts are negative or unhelpful.

All of these factors have been related to how distressed people are about unusual experiences that they have had. I am interested in how all of these relate to each other and which factors might be related to people being less distressed about experiences of psychosis.

In addition, these aspects relate to a life long theory that is applicable to all of us called 'Attachment'. Attachment theory gives us information on the nature of our close relationships; our relationships to our carers, family and friends. Research shows that, different types of attachment will have various impacts on the experience of psychosis. So, this study will give us an overview of how all of these emotion related factors relate to each other, attachment and psychosis.

Understanding how these factors relate and interact can, in the future, help us develop methods to reduce distress felt from the experience of psychosis.

What will happen to the results of the study?

The results of the study will be written up as part of a doctoral thesis and may be published in an academic journal. You will not be identified in any report or publication with all data remaining strictly confidential.

If you want information on the results of the study, I will write up a summary of the results and leave copies of the summary at the CMHT Centre, just ask a member of staff.

I will also put the summary of the results on my University profile page:
<http://www.qmu.ac.uk/psych/people/Akoral.htm>

If you would like me to email you the summary, send me an email and I will happily forward you a copy.

What if there is a problem?

If you have a concern about any aspect of your participation or any other queries please raise this with the investigator (and quote your participant number). However if you would like to contact an independent party please contact the individuals named below:

Participant ID number: _____

Clinical supervisor:
Dr. Sean Harper
2nd Floor, Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh EH10 5HF
Email:
Sean.Harper@nhslothian.scot.nhs.uk
Tel: 0131 537 6912

Dr. Karen Goodall
Psychology & Sociology
Queen Margaret University
Queen Margaret Drive, Musselburgh
EH21 6UU
Email: KGoodall@qmu.ac.uk
Tel : 0131 474 000

If you want to talk to an independent person from the research, you can contact:

Dr. Fiona Barry
Consultant Clinical Psychologist
Department of Psychology
2nd Floor Mackinnon House
Royal Edinburgh Hospital
Tipperlinn Road
Edinburgh EH10 5HF
Email: Fiona.Barry@nhslothian.scot.nhs.uk
Tel: 0131 537 6902

If you remain unhappy and wish to complain formally, you can do this at NHS Lothian Customer Relations and Feedback Team, 0131 536 3370.

You can also contact me if you have any questions about the study:

Melissa Akoral, PhD Candidate
Queen Margaret University
Queen Margaret Drive,
Musselburgh EH21 6UU
Email: makoral@qmu.ac.uk
Tel: 0131 474 0000

If any of the questions has made you feel upset or distressed and you did not want to talk to me about it. You can also contact your CMHT worker if you feel the need to talk to someone you know.

You may also find the following contacts useful:

Mind
Website: www.mind.org.uk Phone: 0300 123 3393 (Mon-Fri, 9am-6pm)

The Mental Health Foundation
Website: www.mentalhealth.org.uk

NHS 24
111 is the new free way to phone the **NHS 24 helpline** from landlines and mobiles.
www.nhs24.com

Thank you for taking part in the study

Appendix 24. *Email from Jim van Os about the association between symptom frequency and distress associated with psychosis*

Re: CAPE - independence of distress score enquiry - Akoral, Melissa

20/08/2018, 15:56

Re: CAPE - independence of distress score enquiry

jim van os <vanosj@gmail.com>

Thu 27/07/2017 18:00

To: Akoral, Melissa <MAkoral@qmu.ac.uk>;

Melissa I guess the problem is that they are so strongly and fundamentally associated that it becomes impossible to investigate separately - it would be like trying to analyse the association with weight independent of length in developing children - a well known problem in statistics...

Met vriendelijke groet,

WWW.PSYCHOSENET.NL - VOOR NORMALE INFORMATIE EN ZELFHULP BIJ PSYCHOSE

Prof. dr. Jim van Os



Voorzitter Divisie Hersenen

Universitair Medisch Centrum Utrecht | Kamernummer B 01.223 | Huispostnummer B 01.304 | Postbus 85500 | 3508 GA UTRECHT

T: +31 88 75 560 25 | www.umcutrecht.nl | j.j.vanos-2@umcutrecht.nl

De informatie opgenomen in dit bericht kan vertrouwelijk zijn en is uitsluitend bestemd voor de geadresseerde. Indien u dit bericht onterecht ontvangt, wordt u verzocht de inhoud niet te gebruiken en de afzender direct te informeren door het bericht te retourneren. Het Universitair Medisch Centrum Utrecht is een publiekrechtelijke rechtspersoon in de zin van de W.H.W. (Wet Hoger Onderwijs en Wetenschappelijk Onderzoek) en staat geregistreerd bij de Kamer van Koophandel voor Midden-Nederland onder nr. 30244197.

 Denk s.v.p. aan het milieu voor u deze e-mail afdrukt.

<https://outlook.office.com/owa/?viewmodel=ReadMessageItem&ItemID=UMsZrJwEAAKs62b9AAA%3D&IsPrintView=1&wid=23&ispopout=1&path=>

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Appendix 25. *PAM avoidance subscale reliability issues*

Alpha is considered to be the estimate of the interrelatedness of a set of scale's items (Schmitt, 1996). The alpha value is also indicative of how similar or unique the items of the scale are. In the literature it is often recommended that alpha is between .7 and .9 (Field, 2013), with others stating that .6 is reasonably high (Coolican, 2014). The subscale attachment avoidance of the Psychosis Attachment measure (Berry et al., 2008) has a reliability alpha of .491. This is considered to be too low a Cronbach's alpha for the scale to be reliable. Hence, the details of the reliability for this subscale were further investigated.

First, the researcher checked that all reverse items were correctly reversed. This was done on SPSS with crosstabs of reversed items and non-reversed items. Afterwards, the relationship between items who have similar meanings were investigated. For instance, item 9 states "it helps to turn to other people when I am stressed" this item is then reversed, a similar meaning is found in item 13 "I try to come with stressful situations on my own" when correlated, these two items do not have a significant relationship ($r=.022$, $p=.869$).

Furthermore, this sub-scale measures attachment avoidance, hence all items of the subscale are expected to correlated positively with each other. The inter-item correlation matrix shows that the reverse items of the scale (PAM2, PAM4 and PAM9) have negative and small effect correlations with other items of the subscale. Furthermore, the correlations are low, which the literature suggest is an argument for the items to be removed (Tavakol & Dennick, 2011).

Pam Avoidance subscale Inter-Item Correlation Matrix

	PAM2R	PAM4R	PAM8	PAM9R	PAM11	PAM13	PAM16
PAM1	-.098	.032	.367	-.116	.273	.149	.224
PAM2R		.393	-.261	.312	-.003	-.024	.017
PAM4R			-.163	.372	.063	.105	-.112
PAM8				.114	.202	.139	.301
PAM9R					-.130	.022	.066
PAM11						.470	.053
PAM13							.175
PAM16							

Moreover, the Cronbach's alpha if item deleted suggests that the reliability of the subscale would increase to .506 if item PAM2 was deleted. This was still deemed to be too low an alpha. As the other reverse items also had low and negative correlations, the exclusion of different combinations of one two or all three reverse items were tried out. It is only when all three were taken out that the alpha was up to .607.

Pam avoidance subscale Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PAM1	9.52	11.949	.253	.232	.443
PAM2R	9.72	13.393	.086	.266	.506
PAM4R	9.70	12.688	.202	.295	.464
PAM8	10.18	12.559	.216	.329	.458
PAM9R	9.97	12.880	.169	.292	.476
PAM11	9.48	11.440	.295	.306	.424
PAM13	9.38	11.393	.328	.260	.410
PAM16	9.87	12.626	.217	.162	.458

In order to further investigate the subscale, the split-half method was used. The method splits the scale set into two sets of items. A score for each individual is calculates for each half of the scale. If a scale is reliable, a person's score should be the same, or similar in each half of the scale. Therefore, the scores from the two halves should correlate very highly. Since at this stage it was already identified that

the reliability issues were related to the reversed items, the subscale was split with the reversed items on one side and the others on another. The findings are summarised in table X.

Reliability statistics for the pam avoidance subscale individual items (N=60)

	Cronbach's alpha		Correlation between forms	Spearman brown Coefficient (equal length)
	Part 1	Part 2		
	PAM2, PAM4, PAM9	Other Items		
And PAM1	.391	.539	.129	.228
And PAM8	.369	.543	.133	.234
And PAM11	.419	.533	.120	.214
And PAM13	.479	.550	.071	.133
And PAM16	.463	.595	.041	.079

The correlations between the reversed items and other items are very low. This further justifies taking the three reversed items out.

The Spearman-Brown formula was used to estimate the internal consistency of the scale when shortened by three items.

The formula is:

$$r_{kk} = k(r_{11}) / [1 + (k - 1) * r_{11}]$$

In our case, we were looking at reducing the subscale by 3 items

$$r_7 = .49$$

$$k = 5/8 = .625$$

$$r_{kk} = .625 (.49) / [1 + (.625 - 1) * .49] = .375$$

The Spearman-Brown estimation is expected to go down with the removal of items, with the removal of three items, alpha is expected to drop to .375. Nevertheless, in this case, the removal of items increases the alpha which suggests that there is indeed an issue with these items, further justifying their removal.

Appendix 6. Reflexivity

I am a 26 year old half-French half-Turkish woman. I moved to Scotland in 2012 for a Masters degree and stayed. Although my accent makes it clear that I am not Scottish it is soft and inclusive enough for participants not to be too caught up on my background. I did my undergraduate degree in Psychology in France. The French school is closely related to psychoanalysis, a lot of the knowledge and practice of clinical psychology is very anecdotal and still strongly attached to its psychoanalytic roots. Whilst I knew that I did not adhere to a purely psychoanalytic approach, not yet having worked with a psychosis population, I was unsure of my stance. This led me to have no set expectations about the stories people were willing to share with me regarding their backgrounds, experiences and lives. This allowed me to be open and non-judgemental of their narratives. I did my best to give priority to the people this project is about. I tried to understand how people understand their world through double hermeneutics as described in IPA.

Throughout the research recruitment and data analysis phases, I was continuously surprised and impressed by the breadth of experiences people had, their strength, the emotional weight they carried and the strong feelings they had towards their experiences, their lives and the care that is offered to them. Through the time I spent with my participants, reading about psychosis and attending conferences I developed my own understanding. I adhere to the bio-psycho-social perspective of psychosis and strongly believe that mental health difficulties lay on a continuum with so-called normality, that there are tremendous individual differences amongst people who experience psychosis when it comes to their experiences and their perceptions and that recovery from psychosis is a very possible prospect. Further, people in this research described their experiences with a lot of awareness and insight into both their and others' perceptions of themselves. I struggled with this at the beginning as, often, the psychosis literature mentions on people's lack of insight as a key component of psychosis.

An important part of my understanding that relates to the ontological perspective taken in this project and in my life is a focus on the meaning and place of reality. I went into every one of my meetings with a thirst and eagerness to learn about people's experiences trying to make sense of it through their words, with a strongly held belief that the participants are the expert. I never questioned the meaning of reality or what actually constitutes reality in their context. I never assumed that my understanding of reality was more nor less than theirs. I took what was real to them and made it my reality in their idiographic context whilst trying to make sense of it in relation to the experiences, perceptions and beliefs they shared with me. Of course, I did not start this research project knowing that that was where I stood. At a conference, whilst I was still analysing my data someone asked me if I was afraid that my participants may be lying to me. This question took me aback; not only I never even considered that to be an option, I realised I did not care as it had no impact on the way I perceived and understood my data. What mattered was what people had told me and I made no assumptions about any ultimate truth nor did I investigate the reality their reality was real in.

Overall, through this research project and the intensive recruitment phase, I gained invaluable knowledge on the workings of the NHS, on the varied team dynamics in different community mental health teams and the breadth and depth of experiences in people have.

Mixed methods research question: In what ways do the self-report and interview findings align with one another to further understanding of distress related to psychosis?	
Negative Beliefs relating to the Need to Control thoughts	
Quantitative	Findings from the mediation models <i>Need for control</i> mediated the relationship between both attachment <i>anxiety</i> ($b = .24$, $SE = .12$ <i>BCa</i> 99% CI [.03, .66], <i>abcs</i> = .2, medium to large effect) and <i>avoidance</i> ($b = .17$, $SE = .08$ <i>BCa</i> 99% CI [.00, .45], <i>abcs</i> = .14, medium to large effect) and distress related to positive symptoms of psychosis.
Qualitative	Qualitative findings examples <i>"Well, distress is um where you uh feel you are not actually in control" (Philip, 123)</i> <i>"It went from I have complete control over everything to nothing at all. It's almost like as if a bomb went off" (Jonathan, 155).</i> <i>"There is nothing under the sun I could have done that would have made a difference" (James, 95-96).</i> <i>"I never really thought that I could influence them [voices], no. These were things which were outside of me which were influencing me" (Phillip, 185-186).</i> The quantitative findings suggests that <i>need for control</i> mediates the relationship between anxious attachment and distress related to positive symptoms. People's lack/loss of control was the overarching theme that emerged in the qualitative analysis. Therefore, the qualitative and quantitative findings on need for control are complementary. Moreover, there is expansion as the two findings expand insights by describing complementary aspects of distress related to psychosis experiences. Together, these findings suggest that people's perceived lack of control contribute to the maintenance of distress related to psychosis symptoms.
Comparison or integration Discussion	

Multi-method meta-matrix table continued

Limited access to emotion regulation strategies

Quantitative

Findings from the mediation models

Attachment anxiety was significantly and indirectly associated with *distress related to negative symptoms* through *limited access to emotion regulation strategies* ($b=.59$, $SE=.21$, BCa 99% CI [.2, 1.24], $abcs=.53$, *large effect*).

Attachment anxiety was significantly and indirectly associated with *distress related to depressive symptoms* through *limited access to emotion regulation strategies* ($b=.63$, $SE=.15$ BCa 99% CI [.3, 1.1], $abcs=.43$, *large effect*).

Qualitative

Qualitative findings examples

"I just feel frustrated that I can't control the thoughts because they're just coming at me all the time and that's just all the time" (Craig, 418)

"I was getting quite desperate and I thought I don't want to be like this anymore and I took an overdose of my diabetic meds" (John, 363).

"I thought as if my life was just, wasting away really" (James, 63)

The integration of the quantitative and qualitative data highlighted that *limited access to emotion regulation strategies* closely relates to the qualitative them of 'control'. People that have difficulties accessing appropriate emotion regulation strategies to deal with emotional difficulties and negative emotions feel stuck; for instance, one of the questions for the subscale is "When I am upset, I believe that I will remain that way for a long time" this relates to the person feeling like they cannot control their emotions. Thus, *limited access to emotion regulation strategies* is a facet of the overarching sense of lack of control people describe in the qualitative data as well as appearing to have important parallels with the metacognition questionnaire's *negative beliefs relating to the need to control thoughts* (e.g. "if I could not control my thoughts, I would not be able to function"). For this theme, integration of the qualitative and quantitative components can also be understood as an expansion. More importantly, the integration of the different methods highlighted the similarity amongst the two key variables of the qualitative findings.

**Comparison
or
integration
Discussion**

Multi-method meta-matrix table continued

Interpersonal relationships	
Quantitative	<p>Findings from regression analyses</p> <p><i>Attachment anxiety significantly predicted distress related to positive ($\beta = .31$, CIs [.12, .67], $p = .02$) and depressive symptoms ($\beta = .49$, CIs [.39, 1.1] $p < .001$). Attachment avoidance significantly predicted distress related to positive and depressive symptoms ($\beta = .27$, CIs [-.04, .75], $p = .04$)</i></p>
Qualitative	<p>Qualitative findings examples</p> <p><i>"One is your own personal experience of what is going on. And then the second side of it is the clinical side of psychosis is the treatment and how you're dealt with in relation to how unwell you are" (Jonathan 276-289).</i></p> <p><i>"She said that most people with the severity of psychosis that I had don't ever to go back to work and I had said to her 'well I'll be going back to work' and this was a restriction and this then became a challenge" (Patrick, 656-660).</i></p> <p><i>"Whereas if you get a job you've got more income and you also get that social role which allows you to feel a bit of dignity" (James, 253).</i></p> <p><i>"I wasn't informed. I was just given medication and left to my own devices" (Josh, 552-553).</i></p> <p><i>"I'd like to have been told more, I'd liked to have been listened to, that's it. I'd like to have been listened to you know, and, even if someone spent half an hour with me and let me speak and then told me 'this a lot of rubbish', that would have been fine" (Patrick, 611-616)</i></p> <p>The quantitative study findings highlight the role played by insecure attachment dimensions, specifically anxious attachment, in the maintenance of distress related to psychosis experiences. On the other hand, the themes that emerged from the qualitative analysis suggest that people's relationship are key to their meaning making, and appraisals of their psychosis experiences. Thus, for interpersonal relationships, the findings of the two studies are not only complementary they also expand each other's reach.</p>
Comparison or integration Discussion	